European Commission

Period covered: 1 April - 5 May
Issued: 12 May 2014

Crop Monitoring in Europe

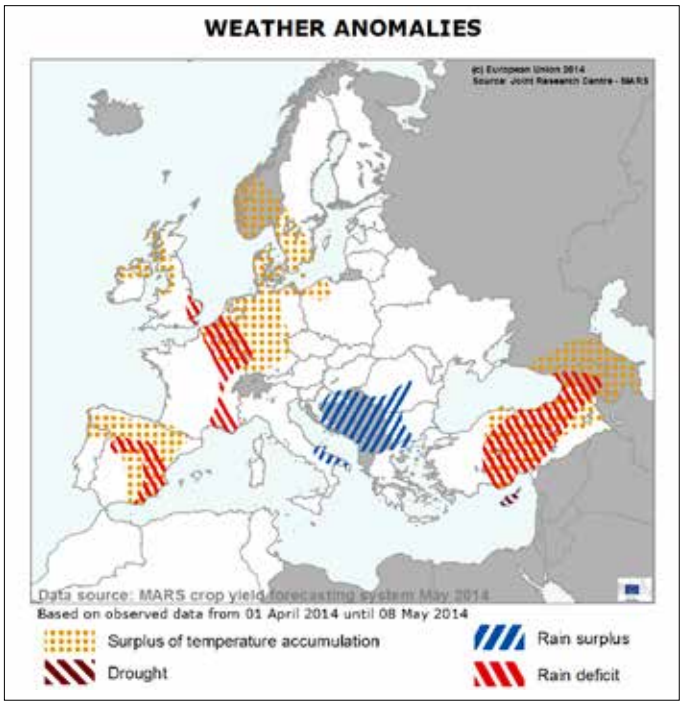
MARS BULLETIN Vol.22 No. 5 (2014)

Despite weather anomalies yield outlook is positive

Above-average temperatures prevailed over large regions of Europe during April. Wetter-than-usual conditions were observed especially over the Balkans. Drier-than-usual conditions affected large areas of western and north-eastern Europe.

Conditions were generally beneficial in central and eastern Europe. In the United Kingdom and Germany soil moisture levels were mostly sufficient to support the water demand of winter crops. The situation in the eastern regions of France is more critical: since the beginning of March, little significant rainfall has occurred. Dry and warm conditions in Spain and the southern Benelux are not affecting crop growth yet, but any precipitation in the near future would be beneficial. Rain surpluses in the Balkan region have not significantly affected crops. Precipitation has been scarce and scattered in Turkey since November, with negative effects on winter cereals.

In general, the current prospects for EU-28 yields are above the 5-years average and the forecast for total cereals increased compared to our last Bulletin reflecting the generally good growth conditions. Compared to our last forecasts that where based on trends and averages forecasts are now produced using the results of the crop model simulations and remote sensing information.



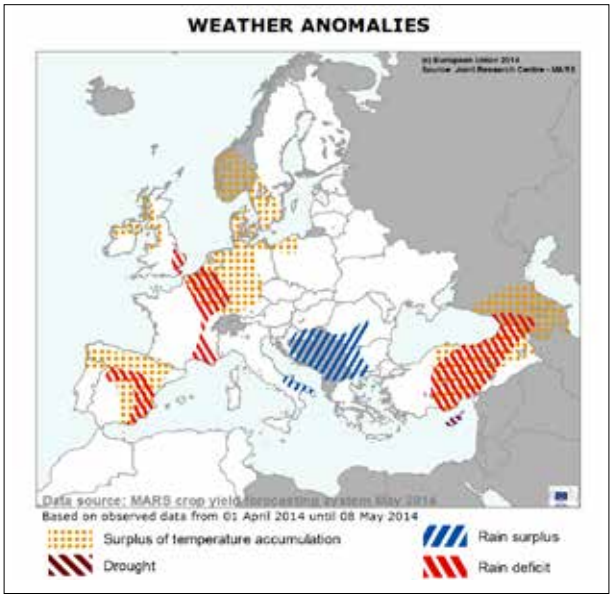
Crop	Yield t/ha				
	2013	MARS 2014 forecasts	Avg 5yrs	%14/13	%14/5yrs
TOTAL CEREALS	5.30	**5.28**	5.08	-0.3	+4.0
Total Wheat	5.58	**5.55**	5.34	-0.5	+4.0
soft wheat	5.82	**5.79**	5.58	-0.6	+3.8
durum wheat	3.25	**3.18**	3.22	-2.0	-1.1
Total Barley	4.85	**4.59**	4.49	-5.3	+2.2
spring barley	4.43	**4.04**	3.94	-8.8	+2.5
winter barley	5.49	**5.38**	5.30	-2.0	+1.5
Grain maize	6.69	**7.08**	6.85	+5.8	+3.5
Rye	3.98	**3.64**	3.49	-8.5	+4.3
Triticale	4.30	**4.14**	4.10	-3.6	+1.1
Other cereals	3.30	**3.27**	3.17	-0.9	+3.3
Rape and turnip rape	3.10	**3.12**	3.05	+0.6	+2.4
Potato	31.02	**32.25**	30.98	+4.0	+4.1
Sugar beet	68.75	**71.29**	70.42	+3.7	+1.2
Sunflower	2.05	**1.95**	1.88	-4.8	+3.4

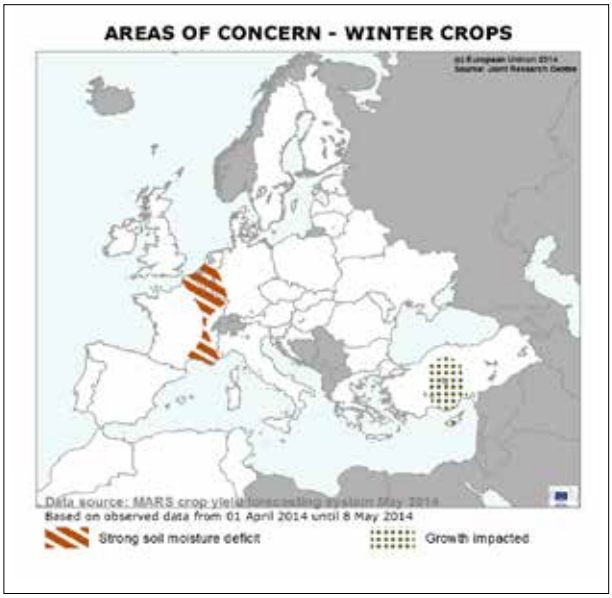
Issued: 8 May 2014

Joint Research Centre

1. Agro-meteorological overview

1.1 Areas of concern





Above-average temperatures prevailed over large regions of Europe during April. These conditions were mostly beneficial in the United Kingdom and Germany, where soil moisture levels were mostly sufficient to support the increased water demand of winter crops. The situation in the eastern regions of France is more critical: no significant rainfall has occurred to replenish soil water reserves during the period of review. As a consequence soil moisture is running low, especially in the topsoil. Well-developed winter crops could still face more days without precipitation, but emerging spring crops will suffer from water stress. The current dry and warm conditions in Spain are not affecting crop growth yet, but any precipitation in the near future would be beneficial. Rain surpluses in the Balkan region have not significantly affected winter crops. Some minor impacts are possible in southern Italy. Precipitation has been scarce and scattered in Turkey since November, and winter cereals have certainly been affected. If this dry period continues, more serious damage is likely to occur to the crops around the flowering period. The situation is worse in Cyprus, where long lasting drought is damaging the winter barley on the island.

1.2 Meteorological review (1 April – 5 May)

Warmer-than-usual conditions were observed over western-central Europe during the first half of April; whereas colder-than-usual conditions affected Russia. In the second half of April, the warm anomalies shifted towards the East, thus displacing most of the cold anomalies over Russia. The first five days of May were characterised by a cold spell which was particularly pronounced over north-eastern Europe. Considering the entire period of review, wetter-than-usual conditions were observed especially over the Balkans, with rains concentrated between 16 April and 5 May. Drier-than-usual conditions affected large areas of western and north-eastern Europe.

Observed temperatures

Warmer-than-usual conditions were observed over western and central-eastern Europe during the first twelve days of April. Temperature anomalies exceeding 2 °C affected an area extending from eastern Portugal to western Poland, and delimited by Montenegro in the south and Denmark in the North. Temperature anomalies greater than 4 °C w.r.t the long-term average were registered over parts of the Iberian Peninsula, Benelux and Germany. Cumulative active temperatures (Tbase=0 °C) exceed the long-term average by more than 20 growing degree days (40 in central Europe and part of Spain). By contrast, colder-than-usual conditions were observed over Russia, with anomalies (w.r.t the long-term average) below -2 °C and cumulative active temperatures below -20 growing degree days w.r.t the long term average.

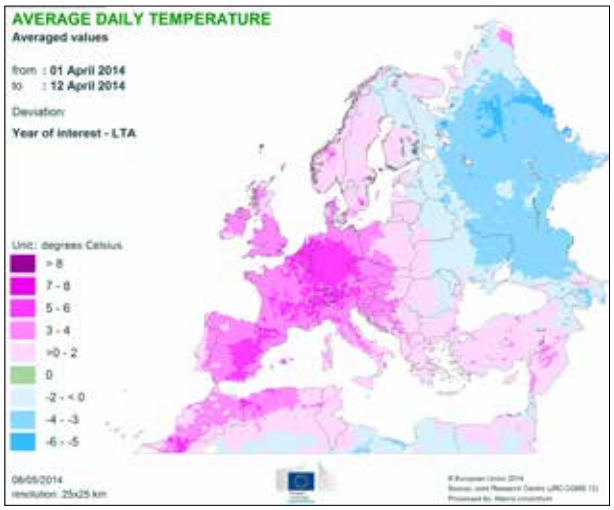
The second half of April (13-30) registered a decrease in the intensity of the warm anomalies over central-western Europe (except Spain), which was associated with an eastward shift of the anomalous warm conditions and the practical disappearance of colder conditions over Russia. Thus, above-average temperatures (by 2 degrees w.r.t. the long-term average) were observed over an area extending from northern Germany to eastern Russia and delimited by Ukraine in the South, Turkey and the eastern coasts of the Black Sea. Over the same areas, cumulative active temperatures were above 20 (locally 40) growing degree days w.r.t the long term average.

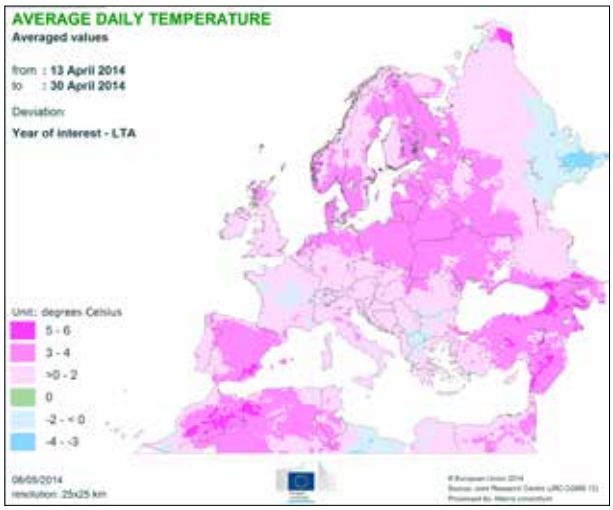
The beginning of May (1-5) was characterised by a sudden change to colder conditions over a very large area delimited by the Iberian Peninsula in the West (where warmer-than-usual conditions were still observed) and by Ukraine/Black Sea in the East. Temperature anomalies below -2 (locally -4) degrees w.r.t. the long-term average affected the Scandinavian Peninsula, north-eastern Germany, the Czech Republic, Poland, Belarus, the Baltic countries and northern Russia.

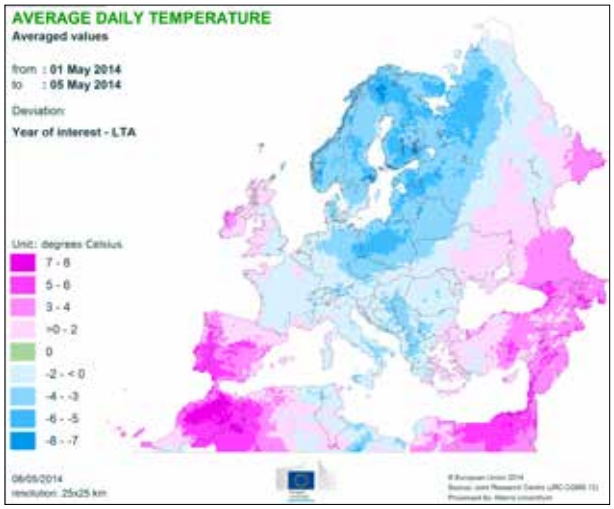
Observed precipitation

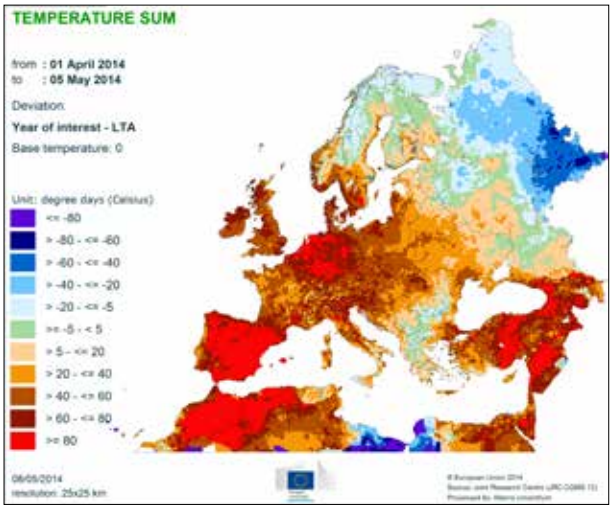
During the period 1 April – 5 May, wetter-than-usual conditions (with rainfall exceeding the long-term average by more than 30%) were observed over the Balkans and the Mediterranean/ Black Sea coasts of western Turkey, eastern Italy, western Norway, central Ukraine and some areas of Portugal, the UK, central Europe, Sweden and Russia. Drier-than-usual conditions (below 30% the long term average) affected large areas in western Europe (mainly Spain, France, Benelux), north-eastern Europe (mainly Belarus, Lithuania, Sweden, Finland and Russia) and eastern Turkey.

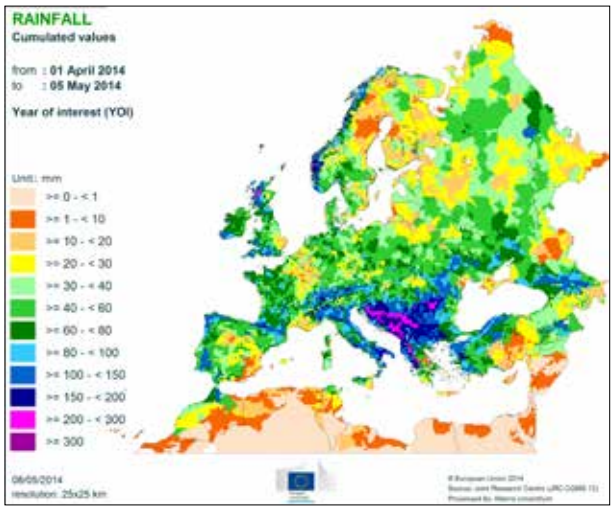
Less than four days with significant daily rainfall (i.e. greater than 5 mm) were observed over the entire region during the first half of April (1-15). From 16 April to 5 May, more than 6 days with significant rainfall were recorded in parts of Italy and France (locally between 7 and 9 days), southern England, the Balkans and western Turkey. In the Balkans, more than 10 days with significant rainfall were observed over north-eastern Croatia, Bosnia-Herzegovina, southern Serbia and Montenegro.

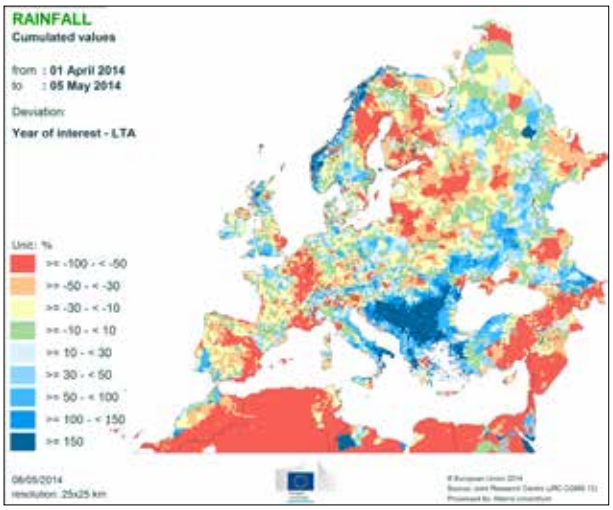


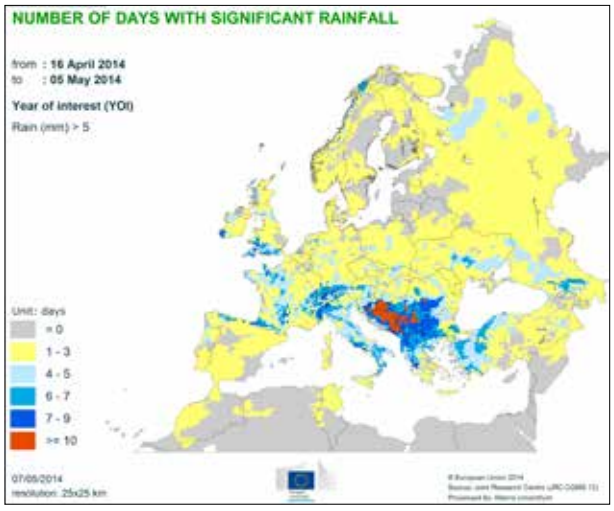


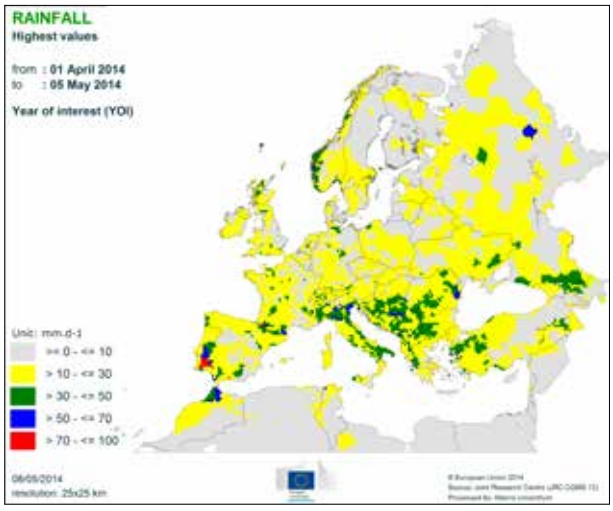

AVERAGE DAILY TEMPERATURE
Averaged values
from : 01 May 2014
to : 05 May 2014
Deviation:
Year of interest - LTA
Unit: degrees Celsius
7 - 8
5 - 6
3 - 4
>0 - 2
0
-2 - < 0
-4 - -3
-6 - -5
-8 - -7
06/05/2014
resolution: 25x25 km


TEMPERATURE SUM
from : 01 April 2014
to : 05 May 2014
Deviation:
Year of interest - LTA
Base temperature: 0
Unit: degree days (Celsius)
<= -80
> -80 - <= -60
> -60 - <= -40
> -40 - <= -20
> -20 - <= -5
>= -5 - < 5
> 5 - <= 20
> 20 - <= 40
> 40 - <= 60
> 60 - <= 80
>= 80
06/05/2014
resolution: 25x25 km


RAINFALL
Cumulated values
from : 01 April 2014
to : 05 May 2014
Year of interest (YOI)
Unit: mm
>= 0 - < 1
>= 1 - < 10
>= 10 - < 20
>= 20 - < 30
>= 30 - < 40
>= 40 - < 60
>= 60 - < 80
>= 80 - < 100
>= 100 - < 150
>= 150 - < 200
>= 200 - < 300
>= 300
06/05/2014
resolution: 25x25 km

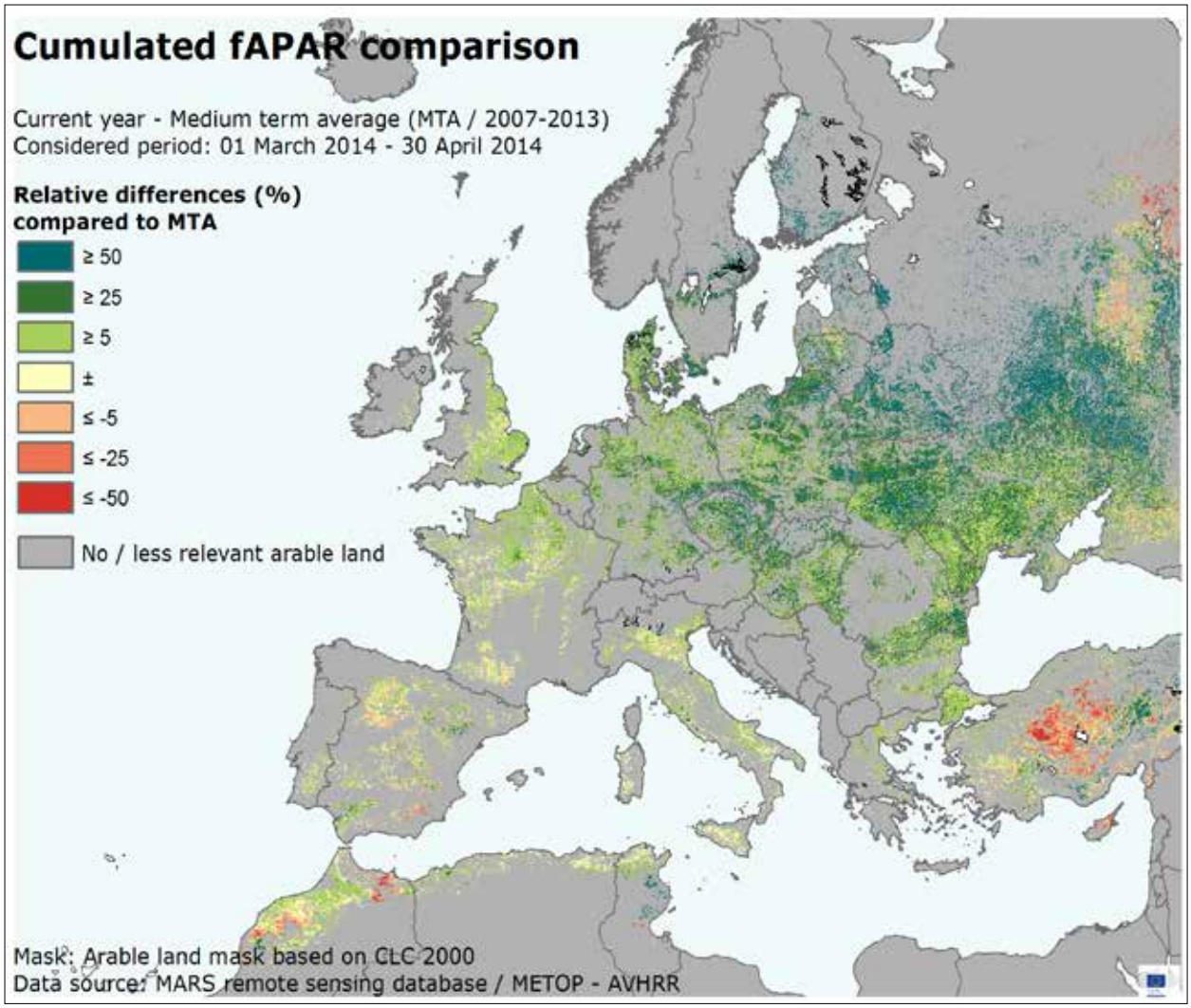

RAINFALL
Cumulated values
from : 01 April 2014
to : 05 May 2014
Deviation:
Year of interest - LTA
Unit: %
>= -100 - < -50
>= -50 - < -30
>= -30 - < -10
>= -10 - < 10
>= 10 - < 30
>= 30 - < 50
>= 50 - < 100
>= 100 - < 150
>= 150
06/05/2014
resolution: 25x25 km


NUMBER OF DAYS WITH SIGNIFICANT RAINFALL
from : 16 April 2014
to : 05 May 2014
Year of interest (YOI)
Rain (mm) > 5
Unit: days
= 0
1 - 3
4 - 5
6 - 7
7 - 9
>= 10
07/05/2014
resolution: 25x25 km

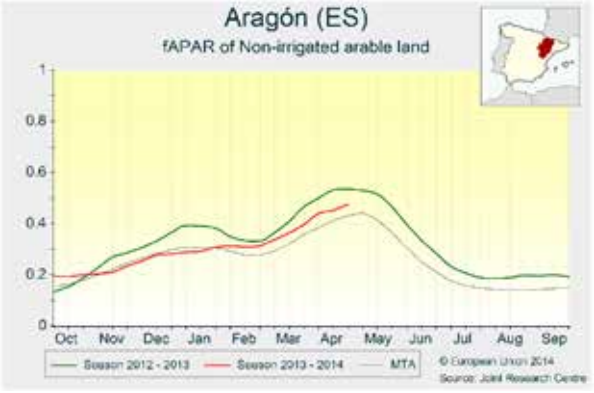

RAINFALL
Highest values
from : 01 April 2014
to : 05 May 2014
Year of interest (YOI)
Unit: mm.d-1
>= 0 - <= 10
> 10 - <= 30
> 30 - <= 50
> 50 - <= 70
> 70 - <= 100
06/05/2014
resolution: 25x25 km

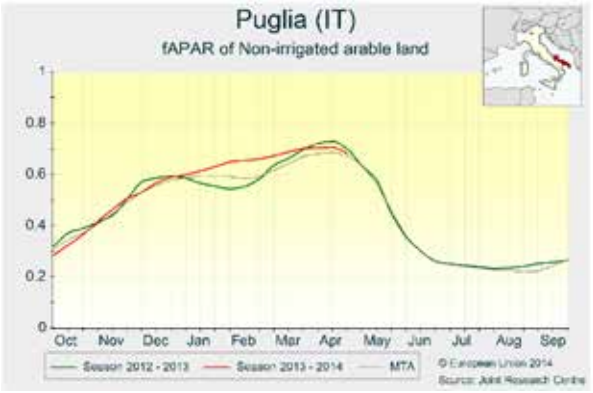
2. Remote Sensing - observed canopy conditions

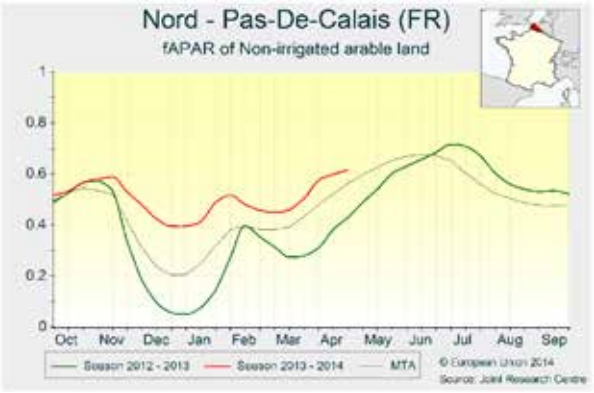
From positive to very positive crop biomass development in western, central and eastern Europe. Lack of biomass accumulation in Turkey and Cyprus.

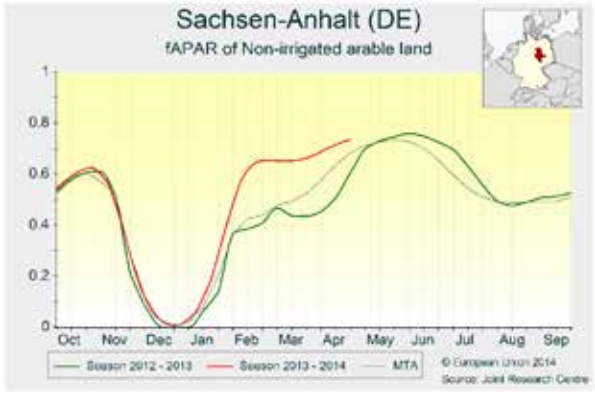


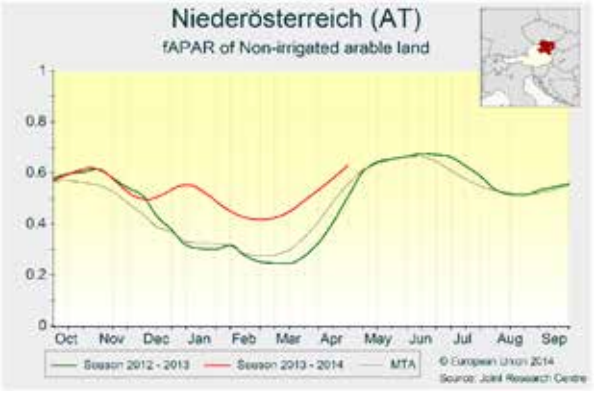
The map displays the observed cumulated values of fAPAR (fraction of Absorbed Photosynthetically Active Radiation) from 1 March to 30 April compared to the medium-term average (MTA / 2007 – 2013). The data are derived from the MetOP – AVHRR platform: its time series have a shorter range compared to the sensor used in the previous bulletins (SPOT–Vegetation 1998 - 2013) and thus the analysis is more influenced by recent years if compared to the ones in the previous bulletins. The map highlights in green the positive anomalies and in red the negative ones. In the **Iberian Peninsula**, canopy development was optimal: the warm mid-April temperatures and the good soil moisture levels boosted crop growth in all the main crop regions (e.g. *Aragon*). In southern **Italy**, the biomass development is around average (e.g. *Puglia*). In the northern regions there are locally positive fAPAR anomalies thanks to the advanced stage of the winter and the newly emerged summer crops. In **France**, crop development is slightly advanced and biomass accumulation is somewhat positive. The cumulated fAPAR values remain above the average almost everywhere, even in the north-eastern regions (e.g. *Nord Pas de Calais*), where we have a persistent lack of significant precipitation. In the **United Kingdom**, biomass development is slightly above average, driven by mild temperatures. In **Germany**, temperature accumulation was significantly above the average causing significant positive anomalies in crop biomass accumulation (e.g. *Sachsen–Anhalt*). In **central Europe** (e.g. *Niederösterreich*), rains of late April sustained crop growth. Crops continue to be advanced in the **eastern countries** (**Romania**, **Bulgaria** - e.g *Sud-Est*), and overall biomass is significantly above the average. In **Ukraine** (e.g. *Vinnyst'ska*), the crop canopy is now optimal in all the main agricultural regions, thanks to rainfall in April. In **Turkey**, high temperatures and scarce rainfall are depleting the water table, negatively impacting winter crops growth (e.g. Kirikkale).

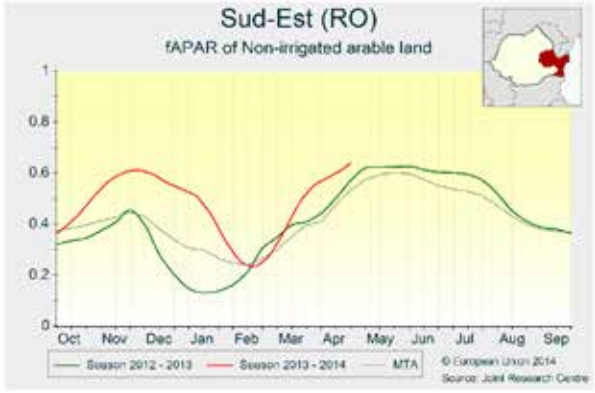

Aragón (ES)
fAPAR of Non-irrigated arable land
Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep
Season 2012 - 2013
Season 2013 - 2014
MTA

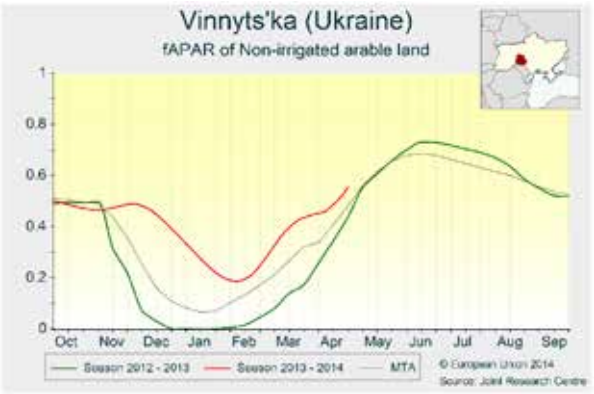

Puglia (IT)
fAPAR of Non-irrigated arable land
Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep
Season 2012 - 2013
Season 2013 - 2014
MTA

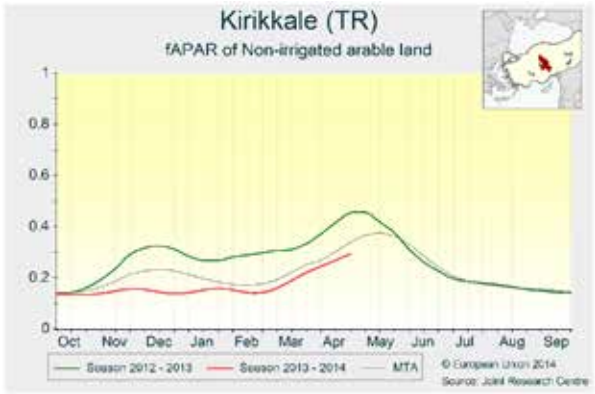

Nord - Pas-De-Calais (FR)
fAPAR of Non-irrigated arable land
Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep
Season 2012 - 2013
Season 2013 - 2014
MTA


Sachsen-Anhalt (DE)
fAPAR of Non-irrigated arable land
Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep
Season 2012 - 2013
Season 2013 - 2014
MTA


Niederösterreich (AT)
fAPAR of Non-irrigated arable land
Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep
Season 2012 - 2013
Season 2013 - 2014
MTA


Sud-Est (RO)
fAPAR of Non-irrigated arable land
Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep
Season 2012 - 2013
Season 2013 - 2014
MTA


Vinnyts'ka (Ukraine)
fAPAR of Non-irrigated arable land
Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep
Season 2012 - 2013
Season 2013 - 2014
MTA


Kirikkale (TR)
fAPAR of Non-irrigated arable land
Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep
Season 2012 - 2013
Season 2013 - 2014
MTA

3. Sowing conditions

Spring Barley

The sowing of spring barley sowings has been practically completed in Europe without major constraints. Spain finished sowing in February-March thanks to favourable weather conditions, with only light showers registered during the second half of February. The absence of substantial rainfall has permitted also to complete sowings in Ukraine and Turkey during March.

Drier than usual conditions registered in March and April favoured the rapid progression of sowings in Germany and France. Similar weather conditions were registered in Poland and Denmark, where sowing has also been completed. In the Baltic Sea countries, sowing has finished about one month earlier than usual, thanks to the mild conditions observed from February. Also in Finland and Sweden, temperatures permitted to start them in mid-April, about two weeks earlier than usual. Sowings have been progressing adequately as well in Russia during April, in absence of abundant rainfalls.

In general, the development of spring barley in its initial phenological stages has been positive up to now in most of the countries, favoured by the warmer-than-usual temperatures registered from February onwards.

Grain maize

Weather conditions for the sowing of grain maize were generally good, facilitating early sowing. Warm and practically dry conditions were observed in most European countries from 10 to 25 March. This was an appropriate sowing window especially for the southern part of Europe. Another warm and dry period occurred from 5 to 20 April, which gave farmers in eastern and western European countries the possibility to complete sowing.

More specifically, in northern Italy farmers sowed during mid-April, while in southern Italy the sowing took place earlier. Currently, the plants are at the emergence or the two-leaves stages. In the Iberian Peninsula, France, and Germany, sowing was completed without any significant problems, and the plants are currently about to emerge or are already at the emergence stage. Favourable conditions occurred also in Russia and Ukraine, where sowing was on time or even in advance. Some concerns about the emergence of the plants arose due to dry conditions in several countries (e.g. Germany, Hungary. Ukraine). However, it is expected that the precipitation experienced in late April and early May helped the plants to emerge and develop. In Turkey sowing has been realized during April, but in the area of *Adana*, drought conditions and low levels of water reservoirs are reported and there are concerns about the emergence as well as the future progress of the crop. In Greece, the sowing was completed during mid-March, and the grain maize plants are already at the two-leaves stage.

Sunflower

Sowing conditions of sunflower were mostly good throughout Europe, and sowing is almost completed. The mild temperature of this winter contributed to early sowings. In general, time periods without substantial rainfall, which favours soil aeration for good sowing conditions, were observed during the main sowing periods throughout Europe. The precocity of sunflower sowing is positive as it prevents possible water stress later in the season, during the flowering stage.

In western Europe (Spain, France and Italy), due to the mild temperatures of the past months, sunflower sowings occurred on time. After a wet winter, consecutive days without any significant rainfall were observed in March and April, followed by little rainfall which could have favoured a rapid germination and emergence.

In eastern Europe, the conditions are more starkly contrasted. In Romania, conditions were good for early sowing during the first half of April. On the other hand, late sowings during the second half of April could have been delayed as all regions except the Nord-Vest received between 50 mm and 90 mm of rain from the second to the third dekad of April. In Bulgaria and Hungary, sowing occurred on time, as late March and the first half of April were mostly dry. In Ukraine, conditions were varied. While the eastern regions experienced little rainfall and conditions were fine, sowing may have been delayed in the central regions. As an example, 50 mm of cumulated rainfall were recorded in *Kirovohrads'ka* from the 9 April to the 21 April. In Russia, sowing is still ongoing. It is expected to get underway on time in the southern and central federal district, but the low temperatures in the *Near-Volga* regions will delay sowing until it becomes warmer. Average temperatures remained below 5°C since 1 April. In Turkey, sowing has started on time as April was almost dry, experiencing little rainfall and higher-than-average thermal conditions.

Sugar beet

In general, weather conditions have been favourable for the sowing of sugar beet. Thanks to the prevalence of mild and dry conditions, sowing has been advanced by two weeks or more compared to an average year in the main EU sugar-beet-producing regions of France, Germany, Poland, the UK and Benelux. Weather conditions have also allowed for timely or advanced sowing in the other EU sugar-beet-producing regions, as well as in major non-EU producers, such as Russia, Ukraine and Turkey. The downside of the dry conditions that prevailed during much of the sowing campaign in many areas is that seed beds are coarser, germination has been delayed where seeds had been planted in dry soils, and emergence has been delayed where seeds had been planted deeper to avoid dry top soils. This would have resulted in some delay in emergence (compared to the time of sowing) and less uniform stands. Furthermore, farmers have been alerted to the risks of high disease pressure and pests such as rats and snails, which exhibit high survival rates due to the mild winter conditions. Nevertheless, on balance, reports suggest a good and very early start of the cycle compared to previous years, which, for sugar beets, is generally considered to be conducive to high yields.

Potato

In general, weather conditions have been favourable for the timely or advanced planting of potatoes across the EU. In Germany, the EU's largest potato producer, plantings were advanced and are now generally presenting good development, partly thanks to supplementary irrigation in the drought affected areas, and the use of protective films to protect young plants against frost. Also in the Netherlands plantings have been relatively early, but some damage to seedlings was reported due to frost in early May. In France, wet weather conditions caused some delays during the start of the campaign, but conditions have improved since then allowing normal progress. Conditions were also generally favourable for plantings in Poland, the EU's second largest potato producer, and other EU producers. The sowing campaign is just starting, or about to start, in the northern EU countries, as well as in Russia, Ukraine and Belarus.

4. Country analysis

4.1 European Union

France

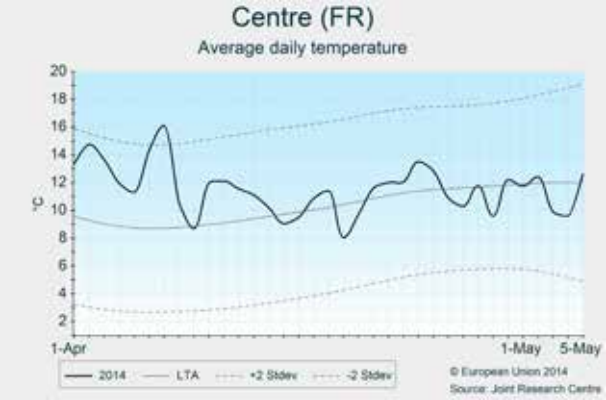
North-east somewhat affected by dry conditions, but overall conditions are good

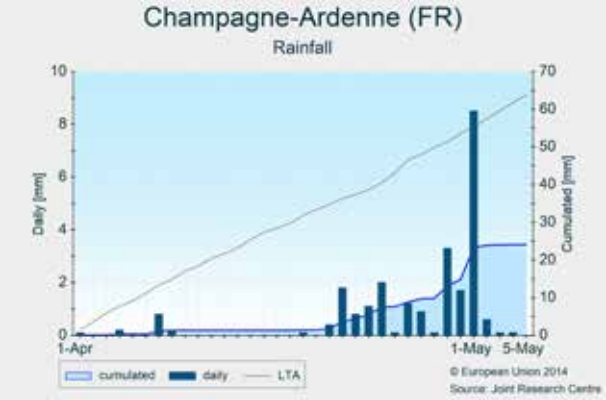
After a mild winter and early spring, crop development is advanced. The long dry period in April somewhat impacted north-eastern regions, affecting the flowering of rapeseed and emergence of spring barley.

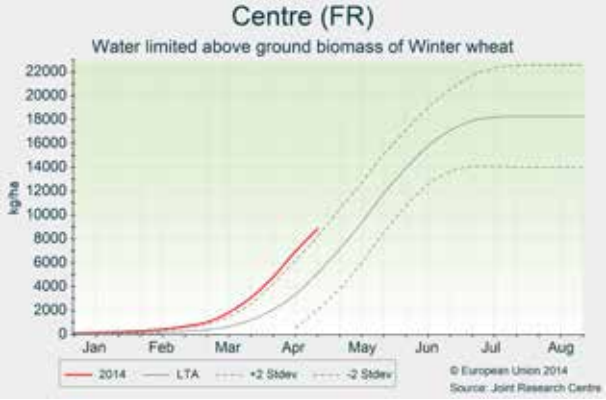
Since 1 April, temperatures were mild, from 1.5°C to 2°C above the average in the south-western and north-eastern regions (*Midi-Pyrenees, Languedoc-Roussillon, Picardie, Nord-Pas de Calais* and *Lorraine*). While the northwest still had some rain close to the average in April, north-eastern regions had 20 days without any significant rainfall. Since the beginning of the year, *Champagne-Ardennes* received 75% of the average amount of rain, and *Lorraine* 60%. Nevertheless, cumulated rainfall since 1 October is close to the average. The dry conditions observed since March are expected to impact the crops locally, where soils are not deep. This dry period coincided with rapeseed flowering and spring barley emergence. Since the end of April, these regions had a few rainfall events, leading to improved conditions. Most of the winter crops will reach the flowering stage in the next days.

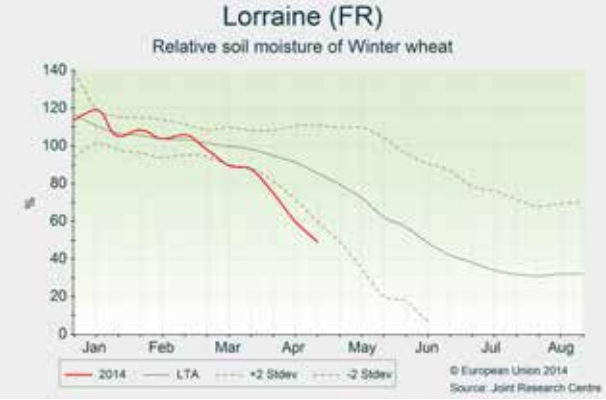
Apart from the north-east, cumulated rainfall is close to the average, and the soil water content is exceptionally high in most regions.

The mild temperatures since autumn helped to advance the crop development stage. Added to the high soil moisture, crops are benefiting from good conditions. Spring barley and winter rapeseed are forecasted to be slightly below the average, due to the dry conditions in the northeast. All the other winter crops are forecasted to be slightly higher than the average. Sowing conditions and the emergence of maize and sunflower are benefiting from good conditions.









Germany

Warm and dry conditions, but beneficial rain towards the end of April

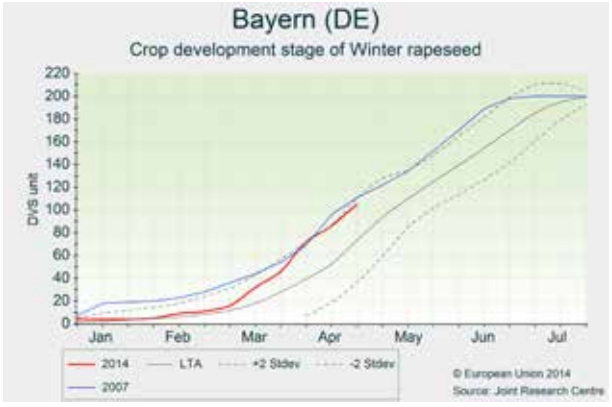
Continued advanced crop development due to a warmer April, colder conditions and beneficial rainfall at the start of May. The crop outlook is forecast to be close to the trend.

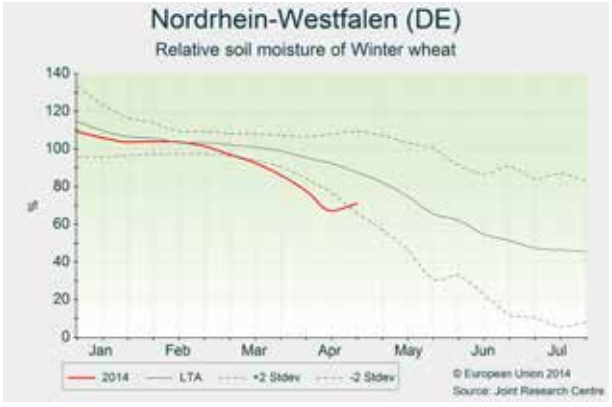
Mild conditions continued to prevail over Germany in April, and the average maximum temperature for the month is once again amongst the highest on our records. This is now the fourth consecutive month to experience warmer-than-average conditions, and consequently crops are strongly advanced in their development (similar to 2007), especially rapeseed which began flowering during April. However, a short cold air intrusion interrupted the mild conditions (16 - 17 April) leading to widespread night frosts across Germany which exposed the crops to cold stress. In general colder conditions were established at the beginning of May.

April was less dry than March. Northern Germany even experienced a rain surplus, but dry conditions continued to prevail in the rest of the country until the end of April when beneficial rain (partially accompanied by heavy thunderstorms and locally high amounts of rain) was recorded. Nevertheless, all *Bundeslaender* except the northern ones exhibit an overall rain deficit for April, but this is less pronounced than in March.

The driest regions were *Rheinland Pfalz* and *Saarland*.

Crops are advanced and show well-developed leaf area and biomass. In most of the country, soil moisture levels were partially replenished thanks to the beneficial rainfall. Heavy rains might have had locally a negative impact on flowering rapeseed, but in general yield prospects for the crops at this stage of the season are favourable and now based on crop growth model simulations. As for the spring sowings, concern was raised due to the low soil moisture levels for the emergence of maize, but the latest rainfall should ease the situation.





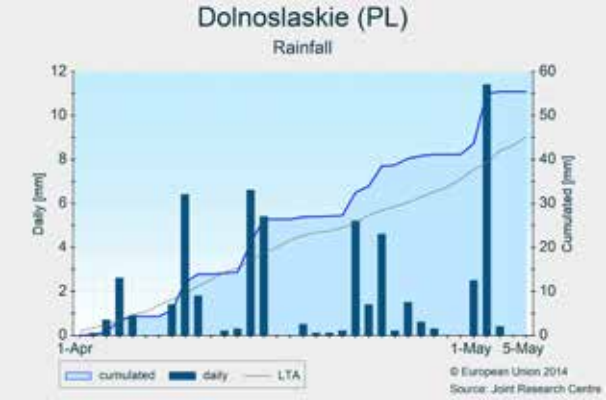
Poland

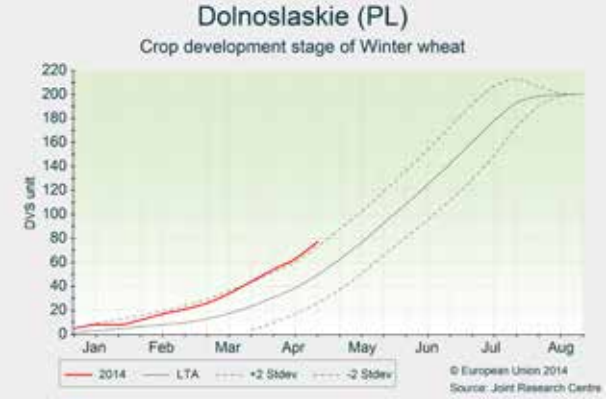
Continued mild conditions advance the crop cycle

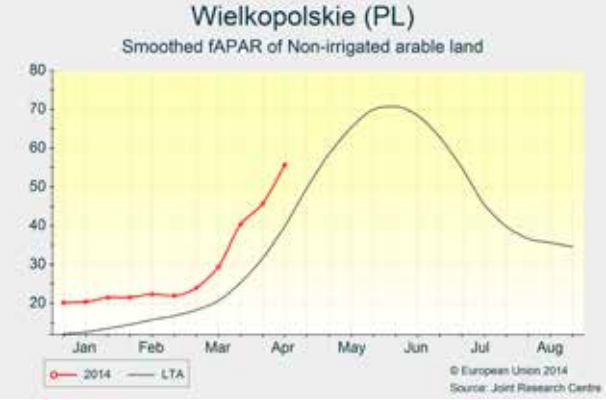
April was characterised by above-average temperatures, prolonging the mild conditions since the beginning of the year. Given that rainfall and global radiation are close to the average, conditions are good for the growth of winter cereals and an advanced crop cycle.

The mild weather observed since the beginning of this year continued during the current period of review. Since 1 April, temperatures have been 1.8°C above the average in eastern regions and up to 2.5°C above the average in central and western regions. For the country as a whole, the four-month period since 1 January 2014 is one of the warmest since 1975 (together with 2007, 1990 and 1989), and the warmest in the southern regions (from *Dolnoslaskie* to *Podkarpackie*). Rainfall recorded in April was close to the average in all regions, as it has been since the beginning of the year. Global radiation is also about average.

The continuously mild temperatures since the beginning of the season led to an advance in the crop cycle. All winter cereals are more than 20 days in advance compared to a normal year, according to our model. This is confirmed by remote sensing images. The mild temperatures accompanied by near-average rainfall and global radiation are positive for the start of the season. Winter cereal yields are forecasted to be slightly above the average. Conditions have also been favourable for the sowing of spring crops, which has now been completed.







United Kingdom and Ireland

Favourable conditions prevail

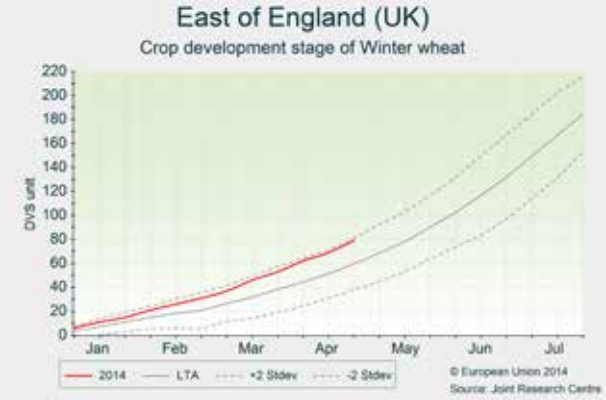
Predominantly warm and relatively dry weather conditions continued to prevail over the UK, providing good conditions for spring and winter crops. Ireland and the northern UK were warm with near-average rainfall and intermittent dry periods, facilitating field operations that had been delayed due to the previous wet months.

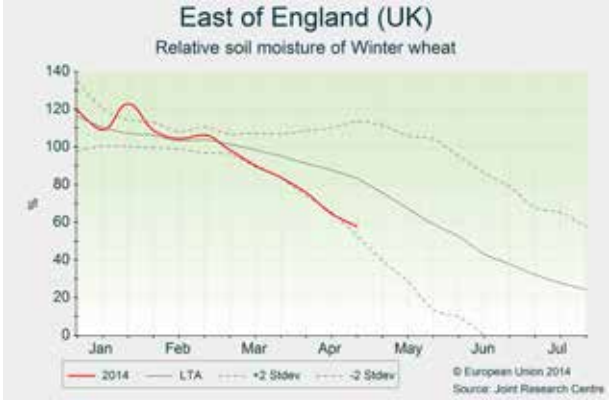
The period under review (1 April – 5 May) was characterised by predominantly warmer-than-usual weather across the British Isles, with daily temperatures exceeding the long term average by up to 4°C, especially during the first half of April. May started somewhat colder, especially in southern and eastern Britain, but continued with above-average temperatures in Ireland. Light frosts occurred over some cropland areas in Britain, on 16 and 19 April and 3 May.

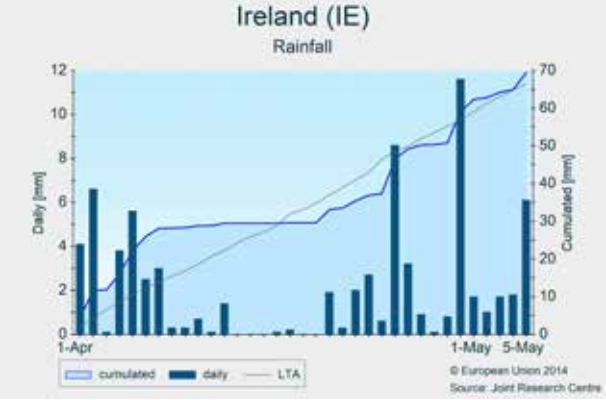
Rainfall in south-eastern, and especially in eastern England, continued below the long-term average. In Ireland and other parts of the UK, rainfall was close to the average.

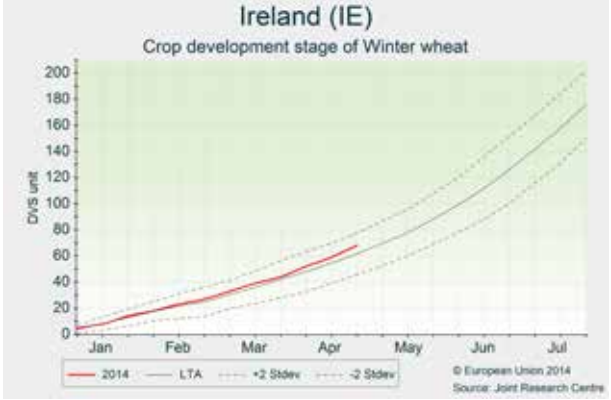
In general, these weather conditions have been favourable for crops. In Britain's main cropland areas, in the east, spring sowing was able to be completed earlier than in an average year, and winter crops are well advanced in terms of phenological development and biomass accumulation. In general, rainfall and soil water supplies have not restricted growth thus far, but soil water levels are below the seasonal average, particularly in eastern England, which implies that substantial rainfall will be needed as crop water demands increase further towards the end of spring and beginning of summer. In other parts of the UK and Ireland, winter crops have generally recovered well from the excessively wet winter conditions; and the periods without rain in April have been (just) sufficient to carry out the necessary field operations (spraying, fertilising) for winter crops, as well as the sowing of spring crops. The alert regarding a high risk of pests and diseases applies to the region as a whole.

While the general outlook is positive, it is still early in the season and crop yield forecasts are still quite uncertain. The forecast for winter crops and spring barley is now based on crop model scenario analyses, which have resulted in slightly upward revisions. For the other crops, the trend-based forecasts were maintained.









Spain and Portugal

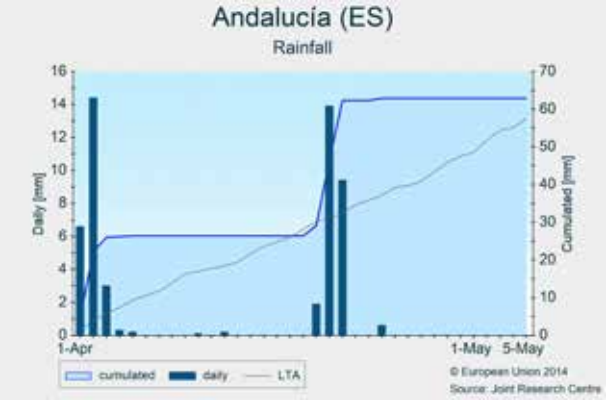
Favourable growth of winter crops

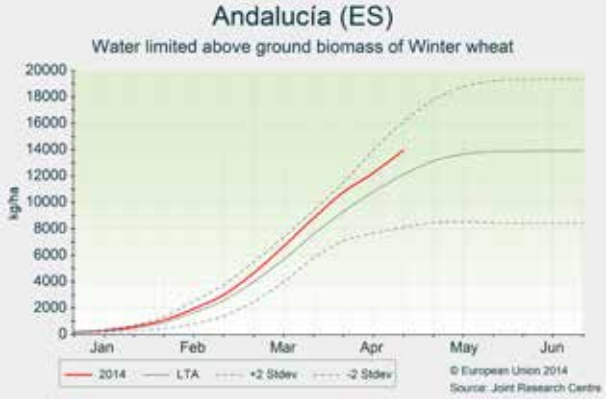
Unusually warm temperatures have been registered during April in most of the Iberian Peninsula, with periodic heavy rainfall events in southern regions. Winter crops are currently in a quite favourable vegetative status.

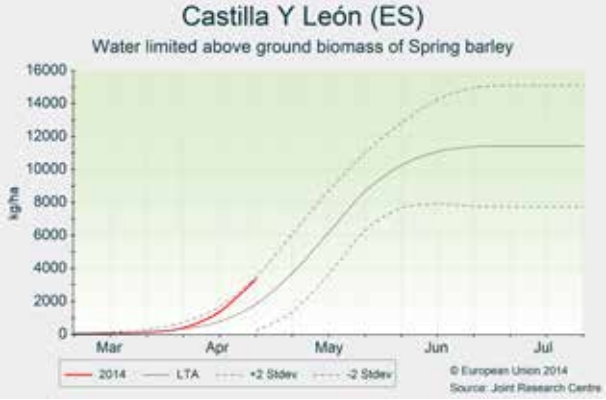
Weather conditions during April were marked by warm temperatures observed across the Iberian Peninsula, with daily averages about 3-4°C above seasonal values. The only exception was the Atlantic coastline of Portugal, where daily temperatures were close to seasonal values. Total precipitation during the previous month was close to the LTA in most of Portugal and Spain. In southern regions (*Alentejo, Andalucia*), sparse thunderstorms were registered during the second week of April, but atmospheric stability was the norm in April.

Crops present a quite favourable vegetative status. The increase in temperatures registered during April boosted leaf area expansion, which is currently above seasonal values for winter crops. In the southern half of the pensinsula, winter varieties of wheat and barley have already completed flowering. In the absence, up to now, of significant water stress, the outlook for both crops is rather positive, but is currently below the exceptional season of 2013. Expectations are also favourable for spring barley; in *Castilla y Leon* it reached the flowering stage at the end of April – about two weeks earlier than usual – and leaf area expansion is currently substantially above average.

Despite of the occasional rainfalls registered, weather has permitted an adequate progression of summer crop sowing in practically all regions. The current warm temperatures have favoured a quick development of sunflower and sugar beets after emergence. The sowing of grain maize was completed in late April, and emergence is expected in most regions during the second week of May.







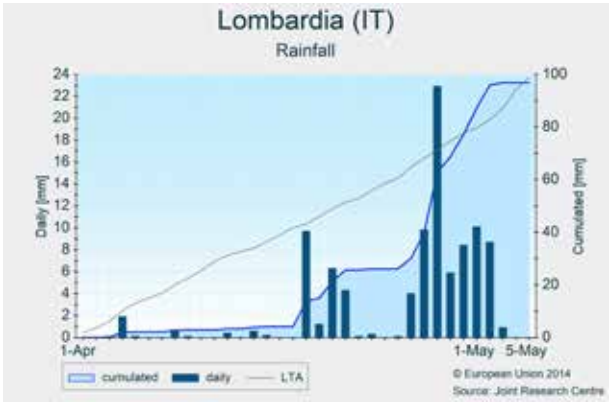
Italy

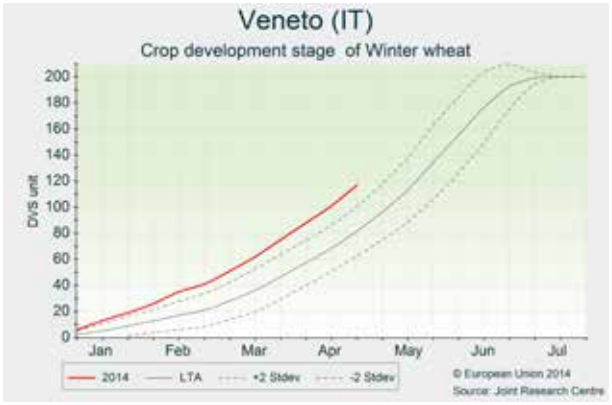
Average outlook for winter crops. Good conditions for spring crops

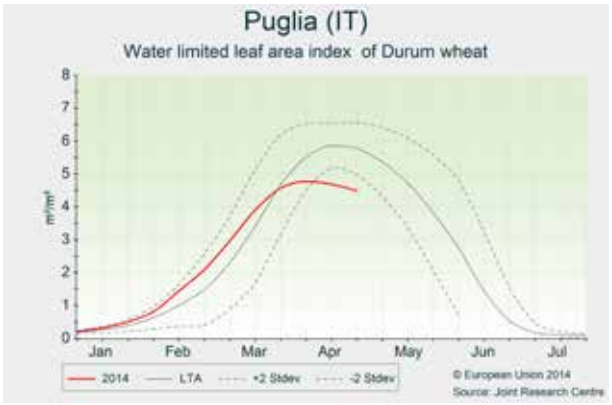
Winter crops show high levels of vegetative development, but overly wet conditions could affect final yields of durum wheat in Puglia. Spring sowing has been completed under good conditions, and the good soil moisture levels combined with warm weather conditions suggest favourable prospects for crop growth in northern regions.

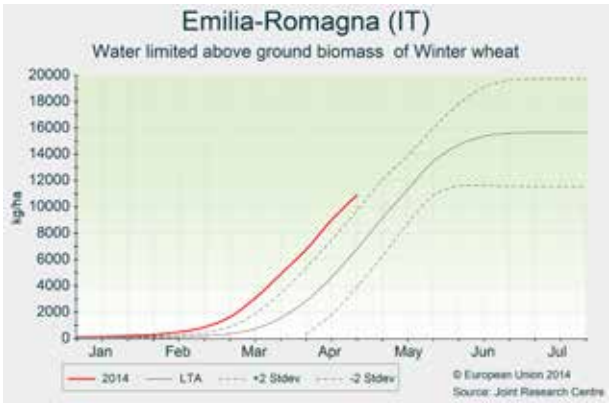
During the period of review, daily temperatures remained above average, resulting in well above-average cumulated active temperatures (Tbase=0°C) in most of the country, especially in the western part of the Italian peninsula. By contrast, normal thermal conditions were recorded in some parts of southern Italy (*Puglia, Basilicata, Calabria* and *Sicily*). During the entire period of analysis, rainfall was plentiful in southern regions, with cumulated values 50-75 mm above average in *Puglia* and *Basilicata*. Abundant precipitation was also recorded in the eastern part of central Italy during the first days of May. In northern and central-western regions, rainfall was scarce or absent during the first half of April, but well above average after 16 April. In *Tuscany, Friuli-Venezia Giulia* and the southern part of *Sicily*, on the other hand, cumulative rainfall during the entire period of analysis was below average.

Winter wheat and barley are at the grain-filling stage, showing advanced phenological development mainly in northern regions. As confirmed by remote sensing analysis, simulated winter crop leaf area index and biomass accumulation are above average, suggesting a generally favourable outlook. Wet conditions recorded in *Puglia* and *Basilicata*, however, increased the risk of pests and diseases for durum wheat and may also cause lodging. The coming weeks will be crucial to determining kernel size and weight for winter cereals. Spring sowing has been completed under good conditions. Maize crops are advanced, with 3-5 leaves unfolded. According to our model and to remote-sensing observations, the forecast yield for winter crops remains close to the 5-year average, except for the durum wheat yield which is revised slightly downwards due to the unfavourable weather conditions recorded in Puglia. For the spring-sown crops, only trends were used at this stage for making yield forecasts.









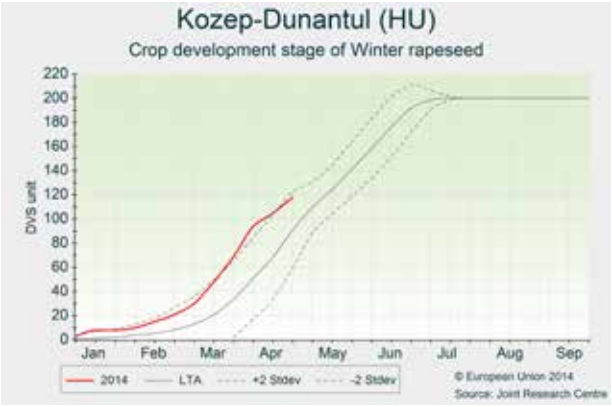
Hungary

Very advanced crop season

Above-average temperatures further accelerated the development of winter crops and allowed for the earlier sowing of spring and summer crops. Near- or above-average precipitation improved the soil moisture supply for sprouting of sown seeds. Leaf area expansion and biomass accumulation are adequate. The soil moisture is low in eastern Hungary, but the recent rainfall could be sufficient to improve the situation and to provide sufficient soil moisture during the flowering and grain-filling period of winter cereals.

During the period of review (1 April-5 May) daily temperatures mostly fluctuated above the average. The overall thermal anomaly typically remained in the range of +1 and +2°C. No significant night frosts occurred, with the exception of 5 May. The first and last dekad of April were warmer than usual, interrupted by a short cold spell. After a very dry March, rain became more frequent in April, resulting in near- or above-average precipitation accumulation. Some parts of *Észak-Alföld* and *Közép-Dunantúl* remained drier, but still received moderate (20-40 mm) rainfall. The first stormy days of May brought very intensive precipitation (up to 100 mm/day) in southern and central regions.

The development stage of winter crops is unprecedentedly in advance by 3-4 weeks. The flowering of rape started in early April instead of May, and winter barley and winter wheat started heading/flowering in the southern territories in the last dekad of April. Mild weather conditions and timely precipitation accelerated the sowing campaign of maize and sunflowers, although local delays may have been caused by the excessive rainfall at the beginning of May. Advanced phenological development and adequate biomass accumulation are confirmed by remote sensing, and are also simulated by our model. In April, the soil moisture was typically below average, but the situation improved considerably in several places in early May.



Romania

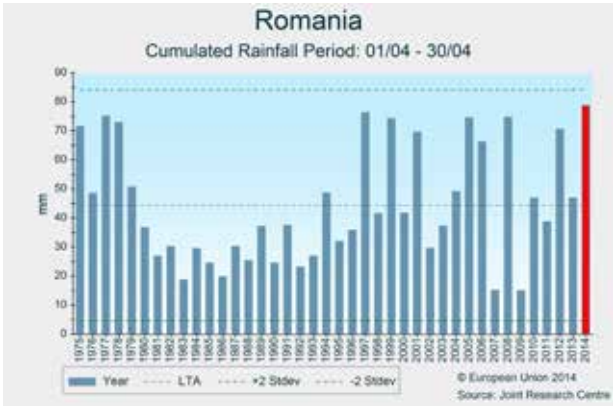
High yield potential of winter crops

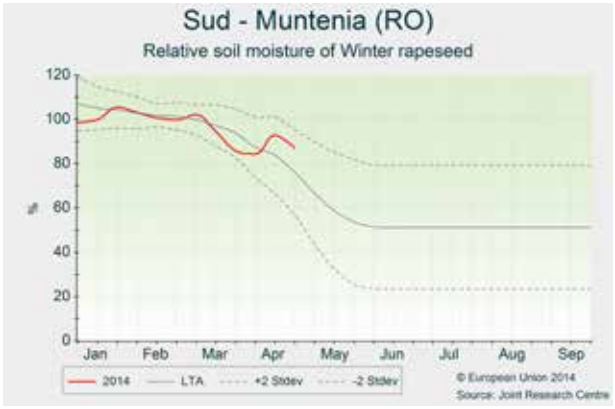
The period of review was characterised by near-average temperatures and plentiful precipitation in most of Romania. Soil moisture levels are restored to close to field capacity in most of the country. Advanced development and high biomass accumulation led to high yield expectations for winter cereals

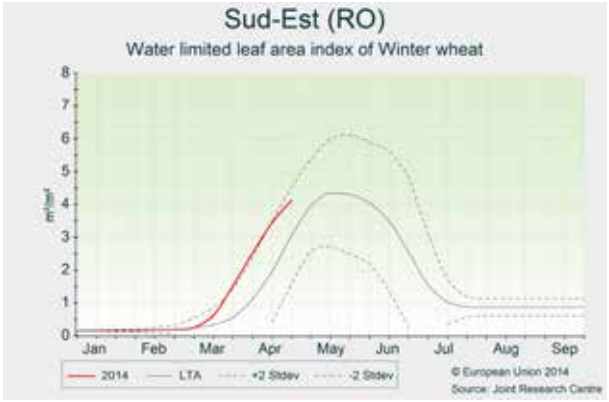
Temperatures in Romania fluctuated around the average during the entire period of review, though the last dekad of April was slightly warmer than usual. The active temperature sum (Tbase=0°C) indicates a 40-70 GDD surplus in north-western regions, while elsewhere no significant difference from the long-term average was detected. Rains were frequent and abundant in the central, southern and eastern regions of Romania, but precipitation remained scarce (20-30 mm) in *Nord-Vest.* Overall, this has been the wettest April since 1975 in our database. The second dekad of April and the beginning of May were especially rainy. In wide areas of *Sud-Muntenia* and *Macroregiunea Patru*, 150-250 mm precipitation was recorded. The spring sowing campaign probably started earlier this year due to favourable mild and dry weather conditions, but the excessive and heavy rainfalls temporarily hampered field activities later on. However, overall, the spring crop sowings were completed on time. No constraint is expected for the sprouting and emergence of spring crops. Soil moisture levels were replenished (to >80% of field capacity) thanks to abundant precipitation, except in some areas along the Hungarian border and Black Sea shore.

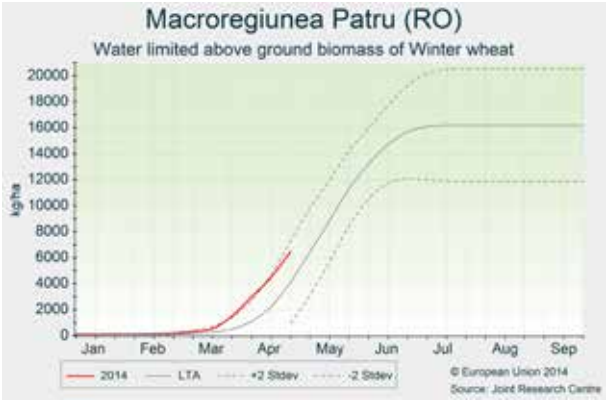
The development of winter cereals and rapeseed is advanced by 1-2 weeks in the eastern and southern regions, and by almost 3 weeks in the western territories. The leaf area expansion of winter crops greatly exceeds the average, ensuring efficient light interception. The good water supply was especially favourable for rapeseed during the flowering and

grain filling periods. Taking into account the above-average biomass accumulation of winter wheat and the adequate soil moisture levels, the yield outlook is positive.







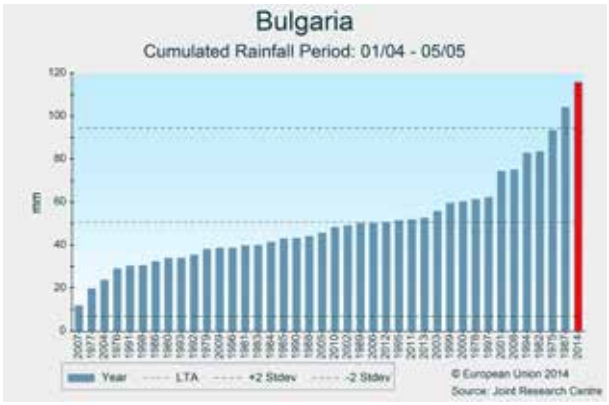


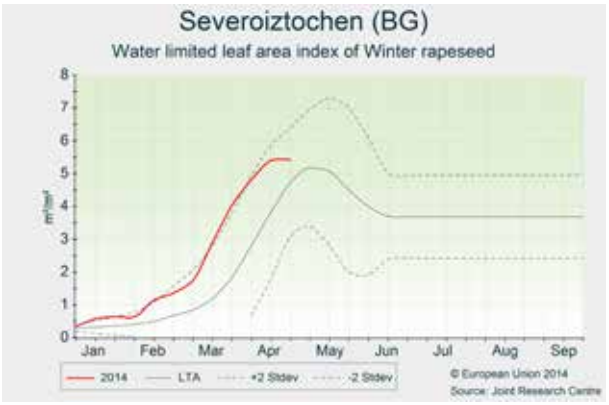
Bulgaria

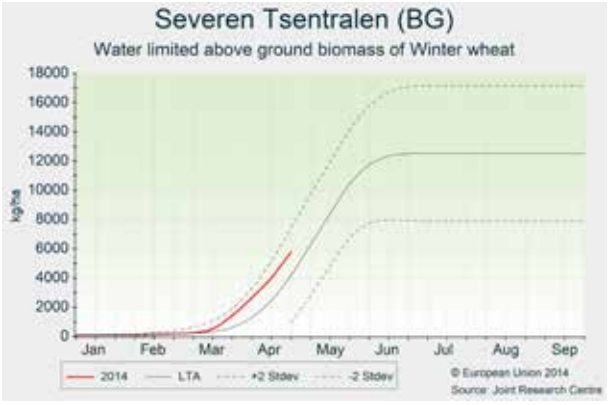
Positive yield outlook so far

Since 1 April, the weather was characterised by frequent and plentiful rainfall. Precipitation exceeded the climatological sum by at least 90 mm in the western half of the country. Thermal conditions were close to the average for the period under review, but there were significant fluctuations in daily temperatures. Crop model simulations and remote sensing information indicate very good crop parameters and a high yield potential.

Temperatures varied considerably around the average, but only *Yugoiztochen* was slightly (+1 to +2°C) warmer than usual. Abundant rainfall typified the period under review, and precipitation remained below average (by 10-20 mm) in the eastern part of *Severoiztochen*. Western Bulgaria was considerably wetter, with the rainiest regions *Severozapaden*- and *Yugozapaden* receiving a rain surplus of 200%, but even central Bulgaria received twice the average. This 1 April - 5 May period set a new precipitation record in our 39-year archive. The rainfall was mainly concentrated in the second







dekad of April and early May, so the relatively drier first and third dekads of April allowed for the sowing of spring crops. The soil moisture was favourably replenished and is now higher than usual, except for some areas along the coastline of the Black Sea. Currently no constraints are detected for the sprouting and emergence of spring crops, though the wet or overly wet soils may lead to a reduced root development and shallower rooting depth.

The development of winter barley and soft wheat is early by 1-3 weeks, reaching the flowering stage in the north and the grain-filling stage in the south. Rape seed development is also advanced by 1-2 weeks and at the grain-filling stage; in *Yugoiztochen* ripening has started. Leaf area expansion and biomass development of winter crops exceeded the average. Consequently, our yield forecast was revised upwards from that of our last Bulletin.

Austria, Slovakia and the Czech Republic

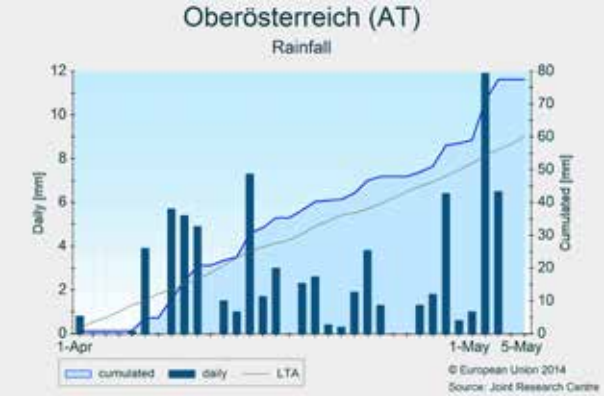
Winter crop yield forecast is below or close to average

Warmer-than-usual weather continued in April, with average daily air temperatures well above the LTA. Rainfall partially replenished the low soil moisture levels. Nevertheless, soil moisture remains low in many agricultural areas, which reduces the yield expectations for winter crops. Weather was mostly favourable for field work, promoting the sowing of spring and summer crops.

Warmer-than-usual weather continued in April, with average daily air temperatures 2 to 4°C above the LTA., accelerating vegetation growth. Active temperature sums (Tbase=0°C) exceeded the normal values by 50 to 80 GDD. Rainfall was spatially highly variable. In general, close-to-average rainfall cumulates were observed during the first two dekads of April, whereas slightly above-average rainfall occurred at the end of month, especially over Slovakia and the central part of the Czech Republic. Beneficial rainfall over those regions has increased soil moisture levels. Nevertheless, a significant soil water deficit remains in Jihovychod, Jihozapad, Oberösterreich and Zapadne Slovensko due to drier-than-usual winter and spring conditions.

In general, weather was mostly favourable for field work, promoting the sowing of spring and summer crops. In regions with soil moisture deficit, the plants failed to take advantage of the fertiliser supply. The situation has slightly improved, with beneficial rainfall at the end of April. Warm and humid weather may have promoted pests and diseases that affect crops, especially winter rapeseed, which is now in the flowering stage.

Winter wheat yield has been revised downwards, especially in the Czech Republic and Slovakia which are in the advanced development stage and are experiencing low soil moisture levels. However, the yield potential may improve if favourable rainfall occurs during the coming flowering period. Trend values are maintained for summer crops.

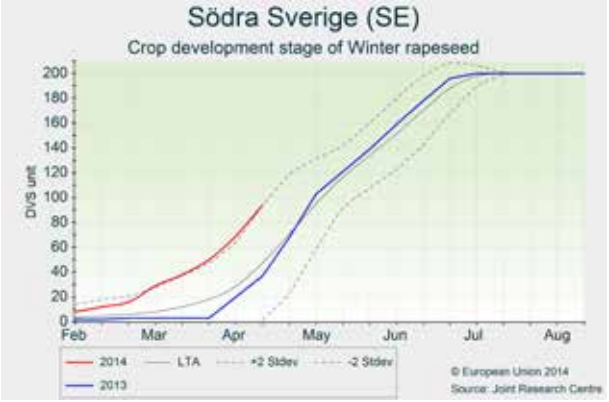


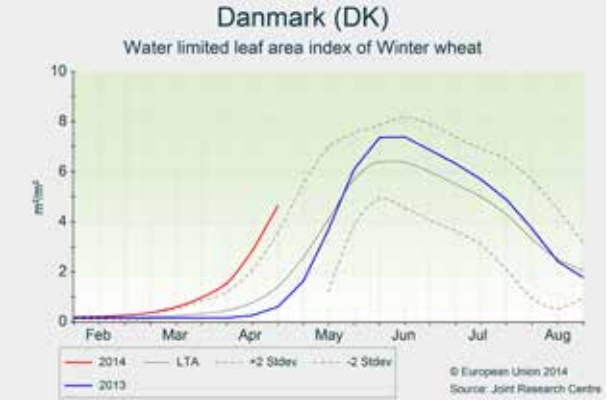
Denmark and Sweden

Good perspectives for winter crops

Persistent warmer-than-usual weather conditions led to a significant advance in crop development. Well-distributed precipitation ensured good crop growth conditions.

Weather conditions continued to be warmer than usual in April, with daily average temperatures constantly above average from 5 April to the end of the month. By contrast, daily temperatures dropped below the long-term average during the first days of May. Cumulated active temperatures (Tbase=0°C) since 1 March are well above average, exceeding the long-term average by more 100 GDD in Denmark and southern Sweden. Consequently, the phenological development of winter crops is significantly advanced. During April, well-distributed precipitation and generally average cumulated rainfall (in the range of 30-50 mm) provided good conditions for the completion of spring sowing and sufficient water supply for winter crops. By contrast, below-average rainfall was recorded between the end of April and the first days of May. According to our model and to remote sensing observations, the yield forecasts for winter crops are close to or slightly above to the 5-year average in Denmark and above the average in Sweden, based on scenario analyses. For the other crops, only trends were used at this stage for the yield forecasts.





Finland, Lithuania, Latvia and Estonia

Good development of winter crops but rainfall needed to sustain good growth

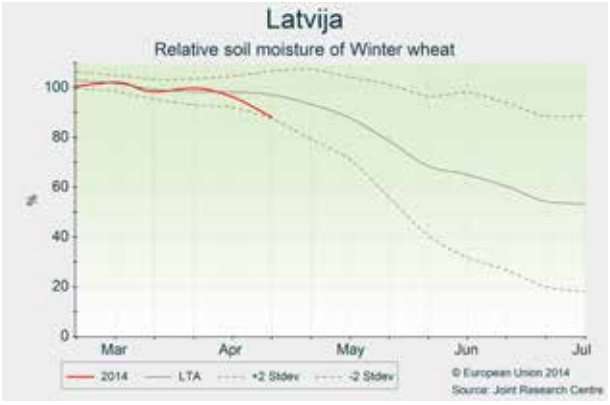
Advanced crop development due to warmer-than-usual conditions continued in April. Soil moisture levels are low, however, particularly in the Baltic countries, so rain is needed to sustain continued good development of crops.

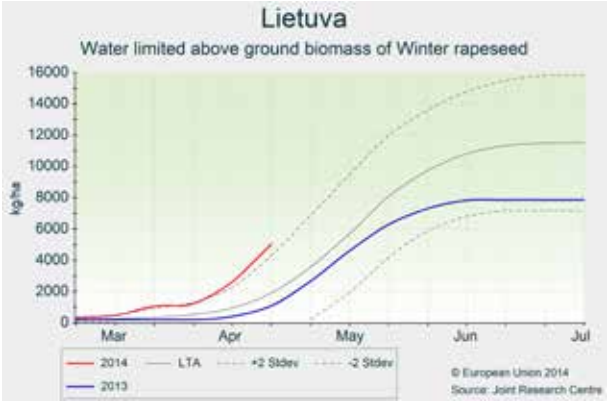
During April, temperatures and solar radiation were higher than the long-term average across the region. There was a decrease in temperatures in May, falling to around 4°C below the long-term average. April was a dry month, particularly in southern Finland and Lithuania. While drier-than-usual conditions also persisted in Latvia, overall precipitation since the beginning of the year is close to average. Soil water storage is decreasing across all the Baltic countries, so rain is needed to replenish soil water and to ensure the good development of crops.

To date, however, the growing season has experienced favourable conditions for winter crops, especially in Lithuania and Latvia. This is confirmed by winter crop simulations: the development and biomass accumulation stages are advanced in comparison with the long-term average and the previous year, particularly for winter wheat and winter rapeseed in Lithuania and Latvia.

Good weather conditions led to early sowing in Finland and the Baltic countries. In fact, the majority of the spring crops have already been planted in Lithuania and Latvia.

Our forecast for winter crops is now based on crop simulations, while the yield forecast for spring crops is still based on trend values. Overall, the yield forecasts are close to average.





Belgium, the Netherlands and Luxembourg

More rain needed in the south-eastern Benelux region

Warm and sunny weather continued to provide good conditions for the growth and development of winter crops and for the sowing of spring crops. More rain is needed in the south-eastern parts of the Benelux region.

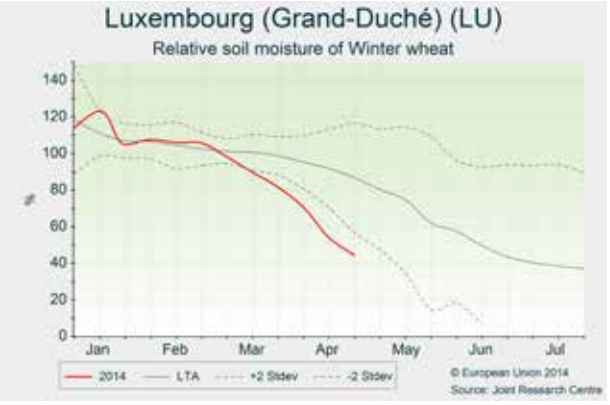
Overall, the period under review (1 April – 5 May) was characterised in the Benelux by above-average temperatures and below-average rainfall, with the exception of the eastern and north-eastern Netherlands, where rainfall levels were average to above-average. For the period as a whole, temperatures exceeded the average by 2 to 3°C (locally up to 4°C). Colder periods, with below-average daily temperatures, only occurred for a few days in mid-April and at the beginning of May, when light night frosts were also recorded.

Solar radiation levels were around average in most of the Netherlands, with somewhat higher levels (locally by up to 20%) in the southern Netherlands, Belgium and Luxembourg. Rainfall was scarce in the same regions, and restricted to light rainfall events (<5 mm) during the first and third dekads of April. Cumulated precipitation in these areas was 30% to more than 50% below the long-term average. By contrast, average to above-average rainfall levels were recorded in the remaining parts of the Netherlands.

Thus far, conditions have generally not been detrimental to crops.

Winter crops are well advanced in phenological development and biomass accumulation. The dry conditions in the south-eastern parts of the region have not yet had a significant impact on crop growth in most areas, but the but soil water reserves have reached very low levels for this period of the season, which implies a very small buffer to confront any further drought, while crop water demands are increasing and the sensitive flowering and grain-filling periods of cereals are approaching. Therefore, substantially more rain is needed in these areas.

Overall, spring sowings in the Benelux could be carried out early. In the drier areas, farmers have sown deeper than normal to ensure the emergence of spring crops, or have applied supplementary irrigation, if available. The requirement for more rain is also imminent for these crops, however, to sustain their development.



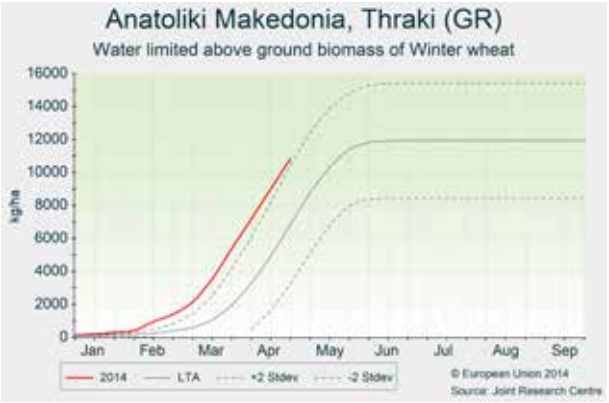
Greece and Cyprus

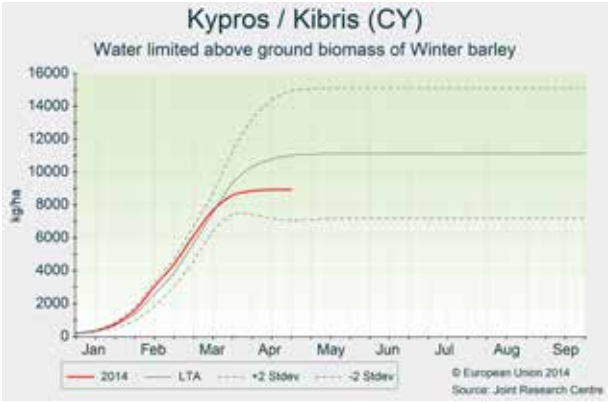
Favourable crop progress in Greece; Drought in Cyprus

In Greece, winter cereals benefited from recent rainfall and present high levels of biomass accumulation. In Cyprus, the outlook for winter barley is poor due to drought conditions.

After a long warm period, the second dekad of April was characterised by temperatures below the long-term average in Greece, but temperatures rose again after 20 April. The high average daily temperature for the period from 1 January to 30 April, the highest observed in our database, led to high evapotranspiration rates. Consequently the warm conditions also had a negative impact on soil moisture. However, precipitation occurred in most of the country in April. The first days of May were also rainy, with hail occurring in some areas (e.g. *Sterea Ellada*) causing significant damages. While daily precipitation levels were generally low, the cumulated level seems to be sufficient since in several agricultural areas the soil moisture reached or passed the long-term average. Winter cereals, which also benefitted from the latest rainfalls, present well-advanced biomass accumulation. Winter wheat is currently at the ripening stage. An appropriate spring sowing window occurred from mid-March to 5 April, and sowing took place under good weather conditions. Grain maize is currently at the two-leaves stage. Scenarios have been used to forecast winter crops, and trends are still used for spring crops.

In Cyprus, drought conditions continue. Temperatures remain mainly above the long-term average, exceeding 30°C on 25 April. The low levels of precipitation that occurred around mid-April were insufficient to replenish the soils. Scenarios have been used to forecast crop yields.





Slovenia and Croatia

Favourable conditions in Croatia, soil moisture deficit in Slovenia

Warmer-than-usual weather continued in April, further accelerating crop development. Rainfall was abundant in Croatia and southern Slovenia. While less rainfall fell in north-eastern Slovenia, it helped to mitigate the soil moisture deficits. Good winter wheat yield potential is foreseen in Croatia, but disease risk is high.

Warmer-than-usual weather continued in April with average daily air temperatures between 1°C and 4°C above the LTA, thus accelerating the development of winter and spring crops. Abundant rainfall occurred in April over major parts of

Croatia, except Istria. Rainfall accumulation in many areas of *Srednja I Istocna Hrvatska* as well as *Jadranska Hrvatska* exceeded the LTA by more than 100 mm. In Slovenia, rainfall conditions were highly variable, with below-average values in north-eastern and western Slovenia and above-average values in central and southern parts. Nevertheless, the low soil moisture levels in north-eastern Slovenia were partially replenished by the beneficial rainfall events of the end of April and beginning of May.

Our simulations show above-average yield forecasts for winter crops in Croatia, mainly as a consequence of favourable soil moisture levels. However, the humid weather in many areas promotes the development of fungal diseases on winter wheat, which may significantly affect yields. Moreover, frequent rainfall events prevent farmers from applying agrochemicals. These factors increase the uncertainty of the winter wheat forecast at this time of the season. The winter wheat forecast for Slovenia has been revised slightly downwards due to a soil water deficit that occurred before the end of April. The situation may be improved by additional rainfall in the coming period. Trend values are maintained for spring and summer crops.

4.2 Black Sea Area

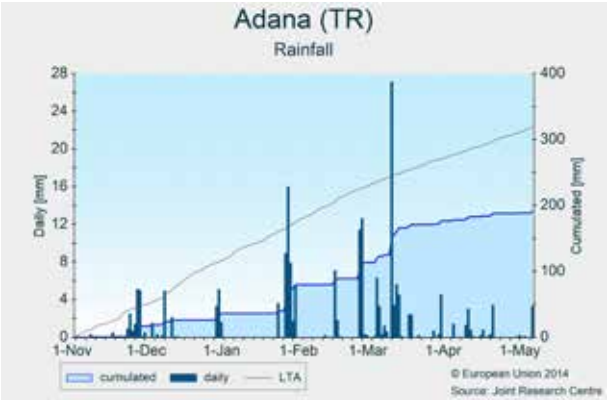
Turkey

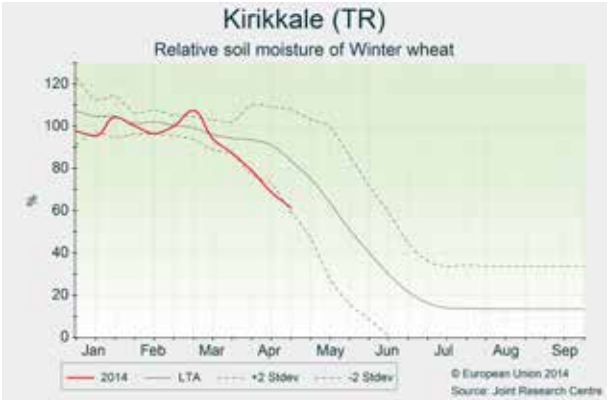
Drought concerns

Soil moisture levels have been restored to the long-term average in western areas, but remain below average in the rest of the country. Good conditions prevailed for the sowing of spring crops, but low levels of water reservoirs are a concern in the irrigated areas.

In Turkey, temperatures continued to fluctuate above the long-term average, with temperatures for the month of April ranging among the five warmest in our database. Temperatures rose to 25-27°C in western and southern areas from 24 to 27 April. Precipitation levels during the period of review were low in most of the country. Good rainfall was recorded in the areas of *Ege*, *Bati Marmara* and *Dogu Marmara*, where soil moisture reserves were restored to the long-term average levels. In the rest of the country, however, soil moisture levels remain below the long-term average, with the lowest levels occurring in *Akdeniz*, *Bati Anadolu* and *Orta Anadolu*.

Winter wheat and winter barley have been negatively impacted by the long warm and dry period with consequent yield loses. Appropriate windows for spring sowing occurred during March and April. Drought conditions are reported in the area of *Adana*, one of the country's main irrigated grain maize areas, and there are concerns about the emergence as well as the future progress of maize because of low levels of water reservoirs. In other grain maize areas of the country such as *Kocaeli* and *Zonguldak*, precipitation in late April and the first days of May appears to be sufficient for the emergence and early development of crops. The forecast for winter cereals is below average, based on scenarios. Trends have been used for the early grain maize forecast.





Ukraine

Concerns due to political uncertainties

Substantial rainfall has relieved the dry condition in central Ukraine. The main concern is now about the political and economic situation which could impact crop management, yields and production, especially of grain maize.

Temperatures were mostly below the long-term average during the first half of April, but since then remained above average. Substantial rainfall was recorded in April in eastern, southern and central regions. Rainfall was particularly welcomed in central Ukraine, which had faced a long dry spell. In the province of Kirovohrads'ka, rainfall reached 78 mm, i.e. twice the average for the analysis period. This will greatly improve the conditions of winter wheat and spring barley and reduce the impact of the dry conditions observed in March. On the other hand, the substantial rainfall may have delayed the sowing of grain maize, particularly in the central regions.

The main concerns are now about the economic crisis reinforced by the political uncertainties. The cost of fertilisers, fuel and pesticides is increasing due to inflation. Farmers could also be disengaged from farming due to the current political situation. Until now, sowing has not been affected by the political and economic situation and good meteorological conditions are prevailing, but later in the season these conditions could deteriorate. As grain maize needs a lot of input and interventions in the field in order to maximise yields, it is expected to be the main crop impacted. Therefore, the forecast yields for maize, and also for barley, have been downgraded to the 5-year average. Winter wheat has been impacted by the dry conditions in the central regions and is forecasted to be slightly below the average.

4.3 European Russia and Belarus

European Russia

Generally favourable winter wheat conditions

The period of review started with a cold first half of April followed by above-average temperatures, except in the Near Volga Okrug. Precipitation was close to or exceeded the average in the main winter-cereal-producing regions of Russia in April. The biomass accumulation of winter wheat is typically near or above average.

Cold weather prevailed over European Russia during the first dekad of April. Daily temperatures were lower than the long-term average by 2 to 5°C during this period. Temperatures rose towards the middle of the month, with a particularly mild period from 14 to 23 April, when the positive thermal anomaly reached +3 to +6°C. After this period, the warm weather continued in the southern territories, but colder-than-usual weather conditions returned in large areas along the Ural Mountains. Precipitation presented high spatial variability, but was plentiful in a wide zone north of the Caucasus Mountains, as well as in the *Voronezhskaya*, *Rostovskaya*, *Volgogradskaya Oblasts* and the south-western part of the *Near Volga Okrug*, while elsewhere rainfall was near average.

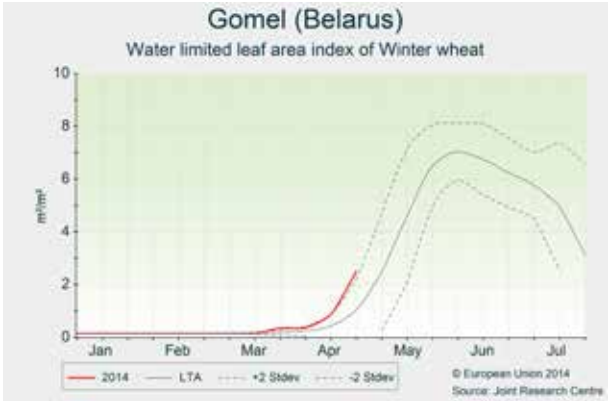
Winter wheat presents a moderate (1 to 2 weeks) advance in phenological development in the area between the Black Sea and the Caspian Sea and on the western side of the *Central Okrug*. Near- or above-average leaf area growth and the high level of photosyntetic activity indicated by our models are also promising. Remote sensing information confirms above-average biomass accumulation in the *Southern Okrug* and the western half of the Central Federal District. The good wintering and sufficient water supply so far are promising with regard to yield expectations for winter cereals.

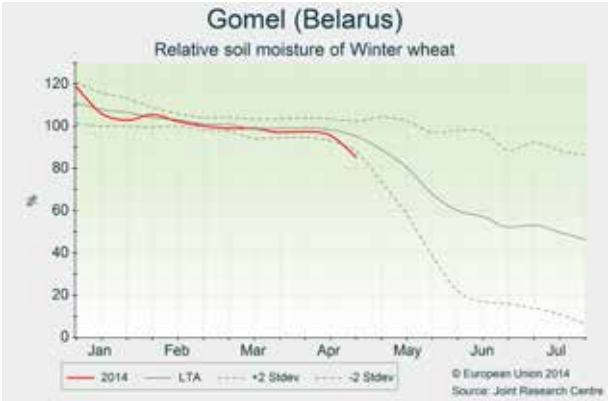
The relatively warm and not too rainy weather allowed for early progress in the spring sowing campaign in the *Central Okrug* and in the south-western part of the *Near Volga Okrug*. Normal weather conditions allowed for the timely progress of the sowing campaign in the *Southern and North-Caucasus Okrugs.*

Belarus

Temperatures remained above average; good development of winter crops

Winter cereals present advanced development. Drier-than-usual conditions persisted, so rain would be desirable in the coming weeks. Conditions were favourable for spring crop sowings.





After the exceptionally mild conditions of the previous months, temperatures in Belarus remained above the norm from 1 April until 5 May. Average temperatures never dropped below 0°C, with the only exception occurring in the province of Vitebsk on1 April. Drier-than-usual conditions have been registered particularly in the east: only 30 mm of rain was cumulated in Grodno, which is about 20 mm less than usual. Soil water storage is decreasing across the country and this may negatively affect crop growth in the coming weeks, unless precipitation replenishes soil water levels. According to our model simulations and as confirmed by remote sensing indicators, winter wheat presents a well advanced development and an above-average leaf area index. Consequently, the yield forecasts for winter wheat are above the historical trend. However, considerable changes are still possible depending on meteorological conditions over the coming weeks.

Favourable weather during April allowed for the early sowing of spring crops. Trends and average values have been used to forecast yield of the spring crops at this early stage.

4.4 Maghreb

Morocco, Algeria and Tunisia

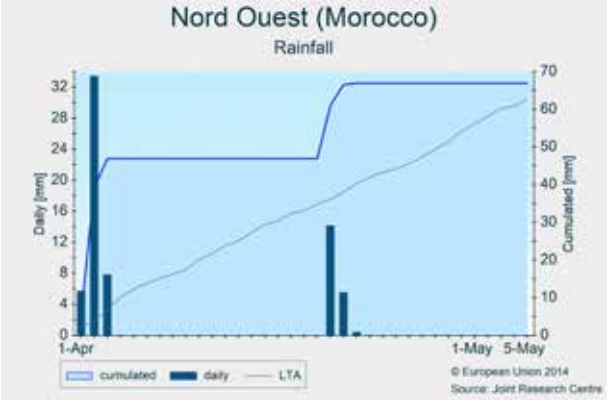
Positive rainfall in Morocco and Tunisia, dry conditions in Algeria

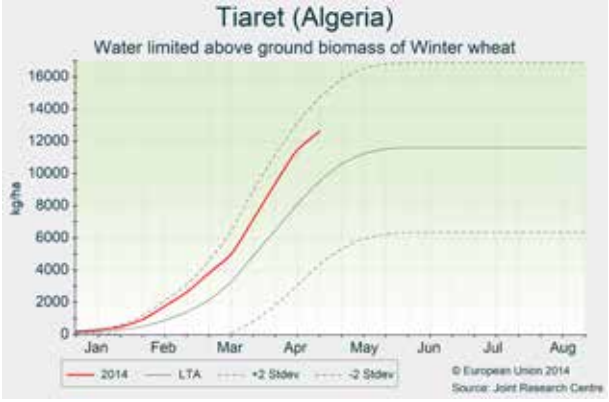
There have been variable weather conditions over the Maghreb during the last month.

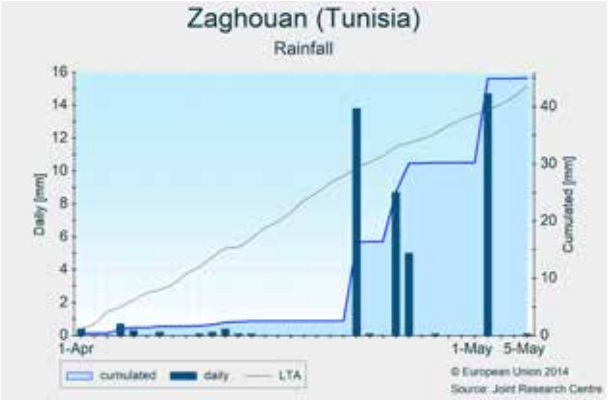
Conditions have been generally good over Morocco, which has again received above average rainfall in the more northern and central agricultural zones. We now expect there has been some recovery since the dry conditions at the start of the season, and yield estimates have increased since the last bulletin.

Algeria has received much less rainfall this last period, with levels well below average across all of the country. However, there was abundant rainfall earlier in the season at more sensitive times of the crop development, and modelled crop indicators are still very positive across much of the country.

Agricultural areas in the northern parts of Tunisia where wheat is more typically grown have continued to receive above average rainfall. More marginal agricultural areas in central Tunisia have also received above average rainfall this last period, suggesting that barley might benefit from this increased rainfall as well.







5. Crop yield forecasts

Country	TOTAL WHEAT t/ha					TOTAL BARLEY t/ha				
	2013	2014	Avg 5yrs	%14/13	%14/5yrs	2013	2014	Avg 5yrs	%14/13	%14/5yrs
EU28	5.57	**5.55**	5.33	-0.5	+4.0	4.85	**4.59**	4.49	-5.3	+2.3
AT	5.37	**5.12**	5.06	-4.8	+1.1	5.15	**5.07**	4.83	-1.6	+5.0
BE	8.93	**8.79**	8.83	-1.6	-0.4	8.31	**8.51**	8.29	+2.4	+2.7
BG	4.25	**4.13**	3.71	-2.9	+11.2	3.90	**4.05**	3.58	+3.7	+13.0
CY	-	**-**	-	-	-	1.44	**1.16**	1.85	-19.7	-37.4
CZ	5.67	**4.38**	5.19	-22.8	-15.7	4.57	**4.42**	4.35	-3.1	+1.7
DE	8.00	**7.70**	7.47	-3.8	+3.0	6.59	**6.21**	6.23	-5.7	-0.2
DK	7.28	**7.41**	7.14	+1.7	+3.7	5.77	**5.56**	5.54	-3.7	+0.4
EE	3.26	**3.40**	3.15	+4.4	+8.0	3.30	**3.15**	2.81	-4.4	+12.3
ES	3.58	**3.21**	3.01	-10.3	+6.7	3.63	**3.00**	2.81	-17.5	+6.7
FI	3.88	**3.79**	3.83	-2.2	-1.1	3.91	**3.50**	3.52	-10.4	-0.5
FR	7.25	**7.34**	6.99	+1.2	+4.9	6.30	**6.41**	6.43	+1.7	-0.3
GR	2.78	**2.75**	2.77	-1.1	-0.5	2.85	**2.73**	2.81	-4.1	-2.6
HR	4.94	**5.14**	4.78	+4.0	+7.5	3.80	**4.08**	3.88	+7.3	+4.9
HU	4.62	**4.22**	4.03	-8.8	+4.7	4.07	**3.72**	3.61	-8.6	+2.8
IE	8.97	**9.03**	8.53	+0.6	+5.9	7.49	**7.45**	7.04	-0.6	+5.8
IT	3.71	**3.77**	3.80	+1.6	-0.7	3.62	**3.51**	3.56	-3.3	-1.5
LT	4.30	**4.21**	4.03	-2.1	+4.4	3.28	**3.30**	3.06	+0.4	+7.6
LU	6.37	**6.00**	6.07	-5.8	-1.1	-	**-**	-	-	-
LV	3.89	**3.84**	3.68	-1.1	+4.5	2.76	**2.75**	2.68	-0.3	+2.7
MT	-	**-**	-	-	-	-	**-**	-	-	-
NL	8.72	**8.70**	8.65	-0.2	+0.5	7.06	**6.47**	6.56	-8.3	-1.4
PL	4.43	**4.51**	4.25	+1.8	+6.1	3.57	**3.50**	3.41	-2.1	+2.5
PT	1.73	**1.80**	1.45	+4.2	+24.1	1.69	**1.65**	1.54	-2.4	+7.2
RO	3.48	**3.48**	2.99	+0.2	+16.5	3.25	**3.13**	2.75	-3.8	+13.6
SE	5.79	**5.94**	5.76	+2.7	+3.1	4.62	**4.45**	4.46	-3.7	-0.2
SI	4.38	**4.40**	4.75	+0.3	-7.4	4.00	**4.03**	4.02	+0.8	+0.4
SK	4.58	**3.79**	3.97	-17.2	-4.5	3.93	**3.59**	3.42	-8.7	+4.8
UK	7.38	**8.19**	7.47	+11.0	+9.7	5.85	**5.80**	5.72	-0.8	+1.3

Country	SOFT WHEAT t/ha					DURUM WHEAT t/ha				
	2013	2014	Avg 5yrs	%14/13	%14/5yrs	2013	2014	Avg 5yrs	%14/13	%14/5yrs
EU28	5.82	**5.79**	5.57	-0.6	+3.8	3.25	**3.18**	3.22	-2.3	-1.4
AT	5.39	**5.14**	5.10	-4.5	+0.9	5.09	**4.48**	4.33	-12.0	+3.5
BE	8.93	**8.79**	8.83	-1.6	-0.4	-	**-**	-	-	-
BG	4.25	**4.12**	3.71	-2.9	+11.2	4.23	**4.22**	3.79	-0.3	+11.4
CY	-	**-**	-	-	-	-	**-**	-	-	-
CZ	5.67	**4.38**	5.19	-22.8	-15.7	-	**-**	-	-	-
DE	8.00	**7.70**	7.48	-3.8	+2.9	-	**-**	-	-	-
DK	7.28	**7.41**	7.14	+1.7	+3.7	-	**-**	-	-	-
EE	3.26	**3.40**	3.15	+4.4	+8.0	-	**-**	-	-	-
ES	3.76	**3.33**	3.23	-11.5	+3.1	2.64	**2.60**	2.17	-1.7	+19.8
FI	3.88	**3.79**	3.83	-2.2	-1.1	-	**-**	-	-	-
FR	7.39	**7.47**	7.15	+1.0	+4.4	5.27	**5.22**	5.13	-0.9	+1.8
GR	2.94	**2.94**	2.99	-0.1	-1.8	2.72	**2.68**	2.69	-1.5	-0.2
HR	4.95	**5.14**	4.79	+4.0	+7.4	-	**-**	-	-	-
HU	4.63	**4.22**	4.03	-8.8	+4.7	4.43	**4.02**	3.84	-9.4	+4.6
IE	8.97	**9.03**	8.53	+0.6	+5.9	-	**-**	-	-	-
IT	5.22	**5.42**	5.37	+3.8	+0.9	2.97	**2.96**	3.09	-0.3	-4.1
LT	4.30	**4.21**	4.03	-2.1	+4.4	-	**-**	-	-	-
LU	6.37	**6.00**	6.07	-5.8	-1.1	-	**-**	-	-	-
LV	3.89	**3.84**	3.68	-1.1	+4.5	-	**-**	-	-	-
MT	-	**-**	-	-	-	-	**-**	-	-	-
NL	8.72	**8.70**	8.65	-0.2	+0.5	-	**-**	-	-	-
PL	4.43	**4.51**	4.25	+1.8	+6.1	-	**-**	-	-	-
PT	1.71	**1.80**	1.43	+5.2	+26.3	-	**-**	-	-	-
RO	3.48	**3.48**	2.99	+0.2	+16.5	-	**-**	-	-	-
SE	5.79	**5.94**	5.76	+2.7	+3.1	-	**-**	-	-	-
SI	4.38	**4.40**	4.75	+0.3	-7.4	-	**-**	-	-	-
SK	4.57	**3.78**	3.97	-17.3	-4.8	4.96	**4.20**	4.00	-15.3	+4.9
UK	7.38	**8.19**	7.47	+11.0	+9.7	-	**-**	-	-	-

Country	SPRING BARLEY t/ha					WINTER BARLEY t/ha				
	2013	2014	Avg 5yrs	%14/13	%14/5yrs	2013	2014	Avg 5yrs	%14/13	%14/5yrs
EU28	4.43	**4.04**	3.94	-8.8	+2.5	5.49	**5.38**	5.30	-1.9	+1.6
AT	4.38	**4.14**	4.03	-5.5	+2.7	5.77	**5.81**	5.59	+0.6	+3.9
BE	-	**-**	-	-	-	8.58	**8.51**	8.57	-0.8	-0.7
BG	-	**-**	-	-	-	3.90	**4.05**	3.61	+3.7	+12.1
CY	-	**-**	-	-	-	1.44	**1.16**	1.85	-19.7	-37.4
CZ	4.61	**4.43**	4.29	-4.0	+3.2	4.47	**4.42**	4.50	-1.1	-2.0
DE	5.41	**5.34**	5.25	-1.3	+1.8	6.93	**6.47**	6.56	-6.8	-1.5
DK	5.68	**5.40**	5.43	-4.9	-0.4	6.26	**6.18**	6.01	-1.3	+2.9
EE	3.30	**3.15**	2.81	-4.5	+12.2	-	**-**	-	-	-
ES	3.70	**3.02**	2.87	-18.4	+5.0	3.21	**2.86**	2.45	-10.8	+16.9
FI	3.91	**3.50**	3.52	-10.4	-0.5	-	**-**	-	-	-
FR	6.08	**5.98**	6.18	-1.6	-3.3	6.40	**6.61**	6.54	+3.3	+1.2
GR	-	**-**	-	-	-	2.85	**2.73**	2.81	-4.1	-2.6
HR	-	**-**	-	-	-	3.84	**4.08**	3.93	+6.1	+3.7
HU	2.98	**3.30**	3.09	+10.6	+6.7	4.48	**3.86**	3.91	-13.8	-1.2
IE	7.10	**7.05**	6.71	-0.7	+5.1	9.51	**8.89**	8.68	-6.6	+2.4
IT	-	**-**	-	-	-	3.62	**3.51**	3.56	-3.3	-1.5
LT	3.27	**3.30**	3.04	+0.7	+8.3	-	**-**	-	-	-
LU	-	**-**	-	-	-	-	**-**	-	-	-
LV	2.73	**2.75**	2.65	+0.7	+3.8	-	**-**	-	-	-
MT	-	**-**	-	-	-	-	**-**	-	-	-
NL	6.95	**6.47**	6.41	-6.9	+1.0	-	**-**	-	-	-
PL	3.39	**3.31**	3.26	-2.4	+1.5	4.10	**4.03**	4.01	-1.5	+0.5
PT	-	**-**	-	-	-	1.69	**1.65**	1.54	-2.4	+7.2
RO	2.34	**2.10**	1.96	-10.2	+7.4	3.64	**3.56**	3.17	-2.1	+12.6
SE	4.58	**4.40**	4.42	-3.8	-0.4	5.74	**5.80**	5.31	+1.0	+9.2
SI	-	**-**	-	-	-	4.00	**4.03**	4.20	+0.8	-3.9
SK	3.88	**3.54**	3.40	-8.8	+4.2	4.20	**3.80**	3.63	-9.6	+4.5
UK	5.66	**5.42**	5.39	-4.2	+0.6	6.40	**6.46**	6.34	+0.9	+1.9

Country	GRAIN MAIZE t/ha					RYE t/ha				
	2013	2014	Avg 5yrs	%14/13	%14/5yrs	2013	2014	Avg 5yrs	%14/13	%14/5yrs
EU28	6.69	**7.08**	6.84	+5.9	+3.5	3.97	**3.63**	3.49	-8.5	+4.2
AT	8.12	**10.24**	10.11	+26.1	+1.3	4.18	**4.20**	4.04	+0.5	+3.9
BE	11.15	**11.90**	11.60	+6.7	+2.6	-	**-**	-	-	-
BG	5.48	**5.15**	4.99	-5.9	+3.3	-	**-**	-	-	-
CY	-	**-**	-	-	-	-	**-**	-	-	-
CZ	6.97	**7.70**	7.79	+10.5	-1.1	4.72	**4.88**	4.56	+3.2	+6.9
DE	8.83	**9.75**	9.76	+10.5	-0.0	5.98	**5.37**	5.24	-10.2	+2.6
DK	5.86	**5.63**	5.48	-3.9	+2.7	6.14	**5.61**	5.58	-8.6	+0.4
EE	-	**-**	-	-	-	1.89	**2.91**	2.50	+54.2	+16.4
ES	11.01	**11.06**	10.81	+0.5	+2.4	2.47	**2.11**	1.86	-14.6	+13.3
FI	-	**-**	-	-	-	2.18	**2.94**	2.77	+34.8	+6.0
FR	8.14	**9.32**	9.00	+14.5	+3.5	4.93	**5.09**	4.96	+3.3	+2.7
GR	11.50	**11.24**	11.01	-2.2	+2.1	1.98	**2.05**	2.05	+3.2	-0.4
HR	6.60	**6.59**	6.18	-0.2	+6.6	-	**-**	-	-	-
HU	5.36	**6.27**	5.73	+17.0	+9.4	3.05	**2.43**	2.29	-20.4	+6.2
IE	-	**-**	-	-	-	-	**-**	-	-	-
IT	8.05	**8.73**	8.77	+8.5	-0.5	-	**-**	-	-	-
LT	7.36	**7.10**	6.66	-3.5	+6.7	1.96	**2.55**	2.27	+30.2	+12.2
LU	-	**-**	-	-	-	-	**-**	-	-	-
LV	-	**-**	-	-	-	2.67	**2.84**	2.70	+6.3	+5.1
MT	-	**-**	-	-	-	-	**-**	-	-	-
NL	11.52	**11.99**	12.07	+4.0	-0.7	-	**-**	-	-	-
PL	6.58	**6.83**	6.73	+3.8	+1.5	2.85	**2.77**	2.69	-2.9	+3.0
PT	8.31	**7.93**	7.70	-4.5	+3.1	0.90	**0.97**	0.87	+7.7	+11.7
RO	4.41	**3.79**	3.68	-14.0	+3.1	2.53	**2.52**	2.40	-0.4	+5.0
SE	-	**-**	-	-	-	5.68	**6.05**	5.66	+6.5	+7.0
SI	5.66	**7.69**	7.53	+35.8	+2.2	-	**-**	-	-	-
SK	5.17	**6.40**	6.03	+23.7	+6.1	3.88	**3.21**	3.09	-17.4	+3.9
UK	-	**-**	-	-	-	-	**-**	-	-	-

Country	TRITICALE t/ha					RAPE AND TURNIP RAPE t/ha				
	2013	2014	Avg 5yrs	%14/13	%14/5yrs	2013	2014	Avg 5yrs	%14/13	%14/5yrs
EU28	4.29	**4.14**	4.10	-3.6	+1.1	3.10	**3.12**	3.05	+0.6	+2.4
AT	4.98	**5.05**	4.97	+1.4	+1.6	3.39	**2.66**	3.12	-21.6	-14.8
BE	-	**-**	-	-	-	4.26	**4.11**	4.15	-3.4	-0.9
BG	2.96	**3.35**	2.79	+12.9	+20.0	2.38	**2.92**	2.31	+22.8	+26.5
CY	-	**-**	-	-	-	-	**-**	-	-	-
CZ	4.58	**4.36**	4.26	-4.7	+2.3	3.45	**2.72**	3.01	-21.2	-9.8
DE	6.57	**5.68**	5.94	-13.6	-4.4	3.95	**3.82**	3.77	-3.3	+1.3
DK	5.71	**5.32**	5.14	-6.9	+3.5	3.87	**3.82**	3.68	-1.2	+3.8
EE	-	**-**	-	-	-	2.02	**1.87**	1.68	-7.3	+11.6
ES	2.79	**2.45**	2.32	-12.2	+5.7	2.56	**2.01**	2.04	-21.6	-1.3
FI	-	**-**	-	-	-	1.52	**1.36**	1.34	-10.9	+1.6
FR	5.31	**5.56**	5.40	+4.6	+3.0	3.04	**3.30**	3.39	+8.5	-2.8
GR	-	**-**	-	-	-	-	**-**	-	-	-
HR	3.41	**3.38**	3.59	-0.8	-5.7	2.66	**3.18**	2.62	+19.3	+21.2
HU	3.87	**3.60**	3.26	-7.1	+10.3	2.60	**2.54**	2.30	-2.5	+10.5
IE	-	**-**	-	-	-	-	**-**	-	-	-
IT	-	**-**	-	-	-	2.17	**2.39**	2.26	+10.0	+5.8
LT	3.13	**2.99**	3.00	-4.6	-0.3	2.13	**1.91**	2.06	-10.5	-7.6
LU	-	**-**	-	-	-	-	**-**	-	-	-
LV	2.60	**2.82**	2.72	+8.6	+3.6	2.36	**2.26**	2.24	-3.9	+1.0
MT	-	**-**	-	-	-	-	**-**	-	-	-
NL	-	**-**	-	-	-	-	**-**	-	-	-
PL	3.64	**3.60**	3.48	-1.2	+3.4	2.80	**2.85**	2.61	+1.8	+9.2
PT	1.55	**1.51**	1.21	-2.8	+24.3	-	**-**	-	-	-
RO	3.66	**3.77**	3.21	+3.1	+17.3	2.42	**2.15**	1.82	-11.1	+18.0
SE	4.90	**5.24**	4.83	+6.9	+8.6	2.65	**2.78**	2.75	+5.0	+1.1
SI	-	**-**	-	-	-	-	**-**	-	-	-
SK	3.40	**2.92**	3.05	-14.1	-4.4	2.74	**2.26**	2.27	-17.5	-0.3
UK	3.75	**3.89**	3.91	+3.6	-0.5	2.98	**3.64**	3.41	+22.3	+6.7

Country	SUGAR BEETS t/ha					POTATO t/ha				
	2013	2014	Avg 5yrs	%14/13	%14/5yrs	2013	2014	Avg 5yrs	%14/13	%14/5yrs
EU28	68.46	**71.29**	70.13	+4.1	+1.7	31.02	**32.25**	30.98	+4.0	+4.1
AT	68.16	**68.51**	69.03	+0.5	-0.8	28.59	**32.07**	31.65	+12.2	+1.3
BE	74.07	**78.97**	79.64	+6.6	-0.8	46.15	**46.29**	45.16	+0.3	+2.5
BG	-	**-**	-	-	-	12.14	**15.96**	14.21	+31.4	+12.3
CY	-	**-**	-	-	-	-	**-**	-	-	-
CZ	60.00	**62.72**	60.58	+4.5		23.12	**27.86**	26.51	+20.5	+5.1
DE	66.56	**68.33**	68.44	+2.7	-0.2	39.83	**43.93**	42.93	+10.3	+2.3
DK	60.52	**60.60**	60.73	+0.1	-0.2	40.00	**40.58**	39.62	+1.4	+2.4
EE	-	**-**	-	-	-	-	**-**	-	-	-
ES	89.85	**93.49**	87.45	+4.0	+6.9	30.49	**30.30**	30.67	-0.6	-1.2
FI	38.78	**38.54**	39.42	-0.6	-2.2	27.56	**27.21**	26.82	-1.3	+1.5
FR	85.40	**89.81**	88.38	+5.2	+1.6	43.39	**45.91**	43.26	+5.8	+6.1
GR	-	**-**	-	-	-	25.36	**25.78**	25.35	+1.7	+1.7
HR	52.00	**53.56**	49.87	+3.0	+7.4	-	**-**	-	- -	-
HU	47.00	**58.07**	**52.08**	+23.6	+11.5	21.83	**27.28**	24.12	+25.0	+13.1
IE	-	**-**	-	-	-	34.00	**32.14**	31.41	-5.5	+2.3
IT	53.25	**56.79**	55.43	+6.6	+2.4	25.60	**25.13**	25.20	-1.8	-0.3
LT	51.00	**53.28**	49.14	+4.5	+8.4	18.00	**15.36**	15.37	-14.7	-0.1
LU	-	**-**	-	-	-	-	**-**	-	-	-
LV	-	**-**	-	-	-	19.00	**17.85**	17.64	-6.0	+1.2
MT	-	**-**	-	-	-	-	**-**	-	-	-
NL	76.00	**77.65**	77.65	+2.2	-0.0	41.50	**45.06**	44.51	+8.6	+1.2
PL	52.90	**55.99**	54.25	+5.8	+3.2	21.40	**21.67**	21.68	+1.3	-0.1
PT	-	**-**	-	-	-	18.00	**16.78**	16.39	-6.8	+2.3
RO	32.28	**35.70**	33.72	+10.6	+5.9	15.03	**14.59**	14.34	-2.9	+1.7
SE	64.20	**56.65**	59.79	-11.8	-5.3	33.79	**32.00**	31.94	-5.3	+0.2
SI	-	**-**	-	-	-	-	**-**	-	-	-
SK	-	**-**	-	-	-	-	**-**	-	-	-
UK	68.40	**68.54**	68.54	+0.2	-0.0	40.10	**41.50**	40.85	+3.5	+1.6

Country	SUNFLOWER t/ha				
	2013	2014	Avg 5yrs	%14/13	%14/5yrs
EU28	2.05	**1.95**	1.88	-4.8	+3.4
AT	2.35	**2.66**	2.58	+12.9	+3.2
BE	-	**-**	-	-	-
BG	2.40	**2.16**	2.03	-9.9	+6.7
CY	-	**-**	-	-	-
CZ	2.20	**2.45**	2.30	+11.3	+6.3
DE	2.11	**2.19**	2.15	+3.8	+1.5
DK	-	**-**	-	-	-
EE	-	**-**	-	-	-
ES	1.21	**1.19**	1.12	-1.9	+6.3
FI	-	**-**	-	-	-
FR	2.05	**2.36**	2.32	+15.0	+1.6
GR	4.37	**2.26**	2.81	-48.3	-19.8
HR	3.24	**2.64**	2.77	-18.6	-4.6
HU	2.48	**2.39**	2.26	-3.4	+5.8
IE	-	**-**	-	-	-
IT	2.09	**2.15**	2.10	+2.7	+2.4
LT	-	**-**	-	-	-
LU	-	**-**	-	-	-
LV	-	**-**	-	-	-
MT	-	**-**	-	-	-
NL	**-**	**-**	**-**	-	-
PL	-	**-**	-	-	-
PT	0.64	**0.65**	0.56	+1.4	+15.6
RO	2.00	**1.75**	1.72	-12.3	+2.1
SE	-	**-**	**-**	-	-
SI	-	**-**	-	-	-
SK	2.33	**2.30**	2.17	-1.2	+6.1
UK	-	**-**	-	-	-

Notes: Yields are forecast for crops with more than 10000 ha per country
Sources: 2009-2014 data come from DG AGRICULTURE short term Outlook data (dated April 2014, received on 28/04/2014), EUROSTAT Eurobase (last update: 04/04/2014) and EES (last update: 07/04/2014)
2014 yields come from MARS CROP YIELD FORECASTING SYSTEM (CGMS output up to 30/04/2014)

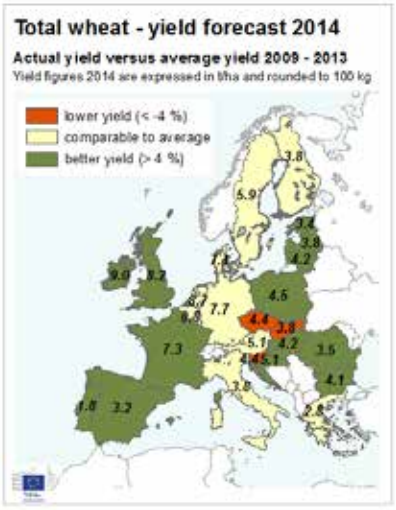
Country	WHEAT (t/ha)				
	2013	2014	Avg 5yrs	%14/13	%14/5yrs
BY	3.59*	**3.64**	3.36	1.50	+8.5
DZ	1.72*	**1.65**	1.62	-4.20	+1.8
MA	2.10*	**1.61**	1.75	-30.40	-8.7
TN	1.55*	**2.04**	1.92	31.61	+6.1
TR	2.78	**2.52**	2.63	-9.35	-4.1
UA	3.39	**2.99**	3.08	-11.92	-2.9

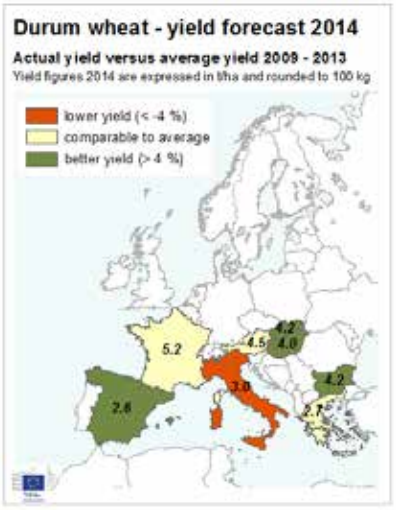
Country	BARLEY (t/ha)				
	2013	2014	Avg 5yrs	%14/13	%14/5yrs
BY	3.09	**3.33**	3.12	7.70	+6.5
DZ	1.65*	**1.53**	1.53	-7.33	+0.2
MA	1.24*	**1.10**	1.27	-11.53	-13.6
TN	0.94*	**1.56**	1.24	65.85	+25.2
TR	2.89	**2.48**	2.58	-14.05	-3.8
UA	2.34	**2.25**	2.25	-3.80	+0.0

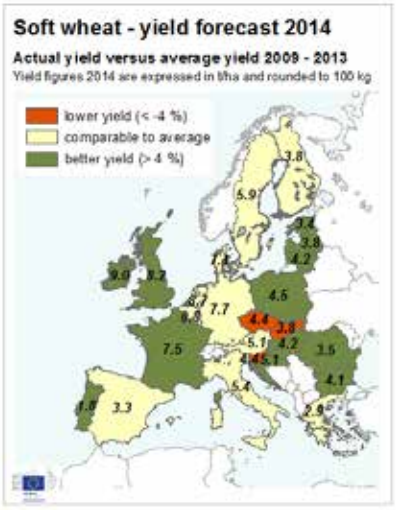
Country	GRAIN MAIZE (t/ha)				
	2013	2014	Avg 5yrs	%14/13	%14/5yrs
BY	5.92*	**6.06**	5.62	2.28	+7.7
DZ	-	**-**	-	-	-
MA	-	**-**	-	-	-
TN	-	**-**	-	-	-
TR	8.95	**8.11**	7.61	-9.35	+6.6
UA	6.4	**5.43**	5.56	-15.09	-2.2

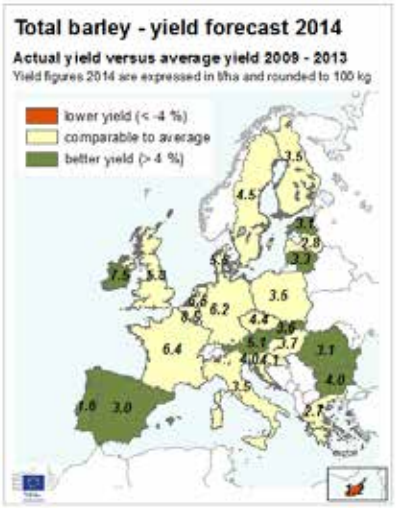
Notes: Yields are forecast for crops with more than 10000 ha per country
Sources: 2009-2013 data come from FAO, PSD-online, INRA Maroc, Min AGRI Tunisia and DSASI Algeria
*2013 yields come from MARS CROP YIELD FORECASTING SYSTEM as reported values were not available
*2014 yields come from MARS CROP YIELD FORECASTING SYSTEM (CGMS output up to 30/04/2014)

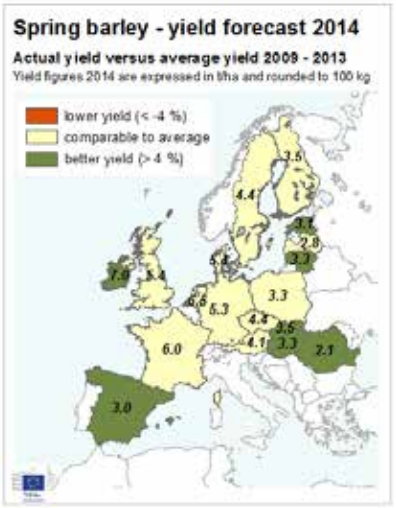
Yield maps

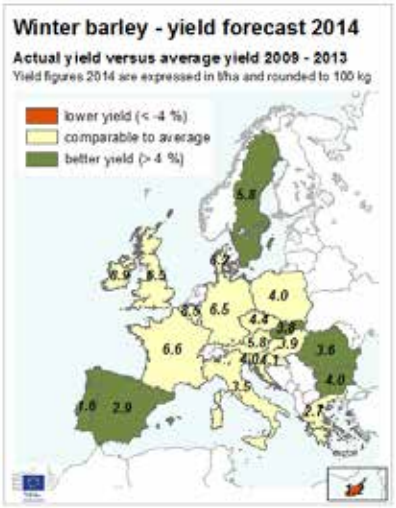

Total wheat - yield forecast 2014
Actual yield versus average yield 2009 - 2013
Yield figures 2014 are expressed in t/ha and rounded to 100 kg
lower yield (< -4 %)
comparable to average
better yield (> 4 %)

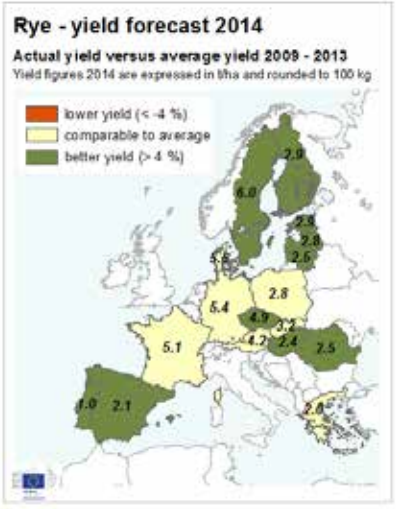

Durum wheat - yield forecast 2014
Actual yield versus average yield 2009 - 2013
Yield figures 2014 are expressed in t/ha and rounded to 100 kg
lower yield (< -4 %)
comparable to average
better yield (> 4 %)

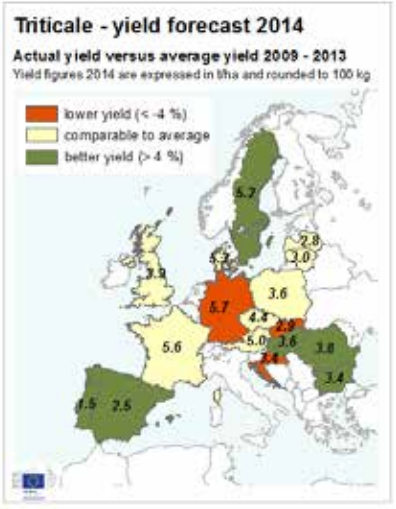

Soft wheat - yield forecast 2014
Actual yield versus average yield 2009 - 2013
Yield figures 2014 are expressed in t/ha and rounded to 100 kg
lower yield (< -4 %)
comparable to average
better yield (> 4 %)

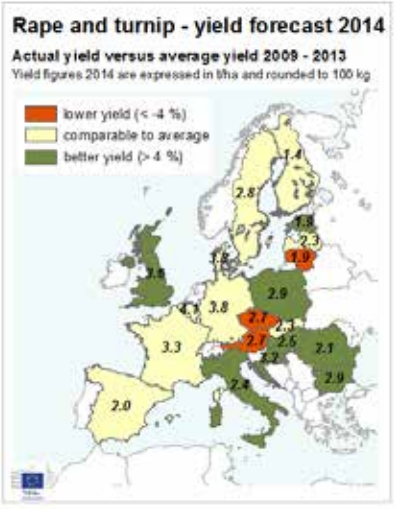

Total barley - yield forecast 2014
Actual yield versus average yield 2009 - 2013
Yield figures 2014 are expressed in t/ha and rounded to 100 kg
lower yield (< -4 %)
comparable to average
better yield (> 4 %)


Spring barley - yield forecast 2014
Actual yield versus average yield 2009 - 2013
Yield figures 2014 are expressed in t/ha and rounded to 100 kg
lower yield (< -4 %)
comparable to average
better yield (> 4 %)


Winter barley - yield forecast 2014
Actual yield versus average yield 2009 - 2013
Yield figures 2014 are expressed in t/ha and rounded to 100 kg
lower yield (< -4 %)
comparable to average
better yield (> 4 %)


Rye - yield forecast 2014
Actual yield versus average yield 2009 - 2013
Yield figures 2014 are expressed in t/ha and rounded to 100 kg
lower yield (< -4 %)
comparable to average
better yield (> 4 %)

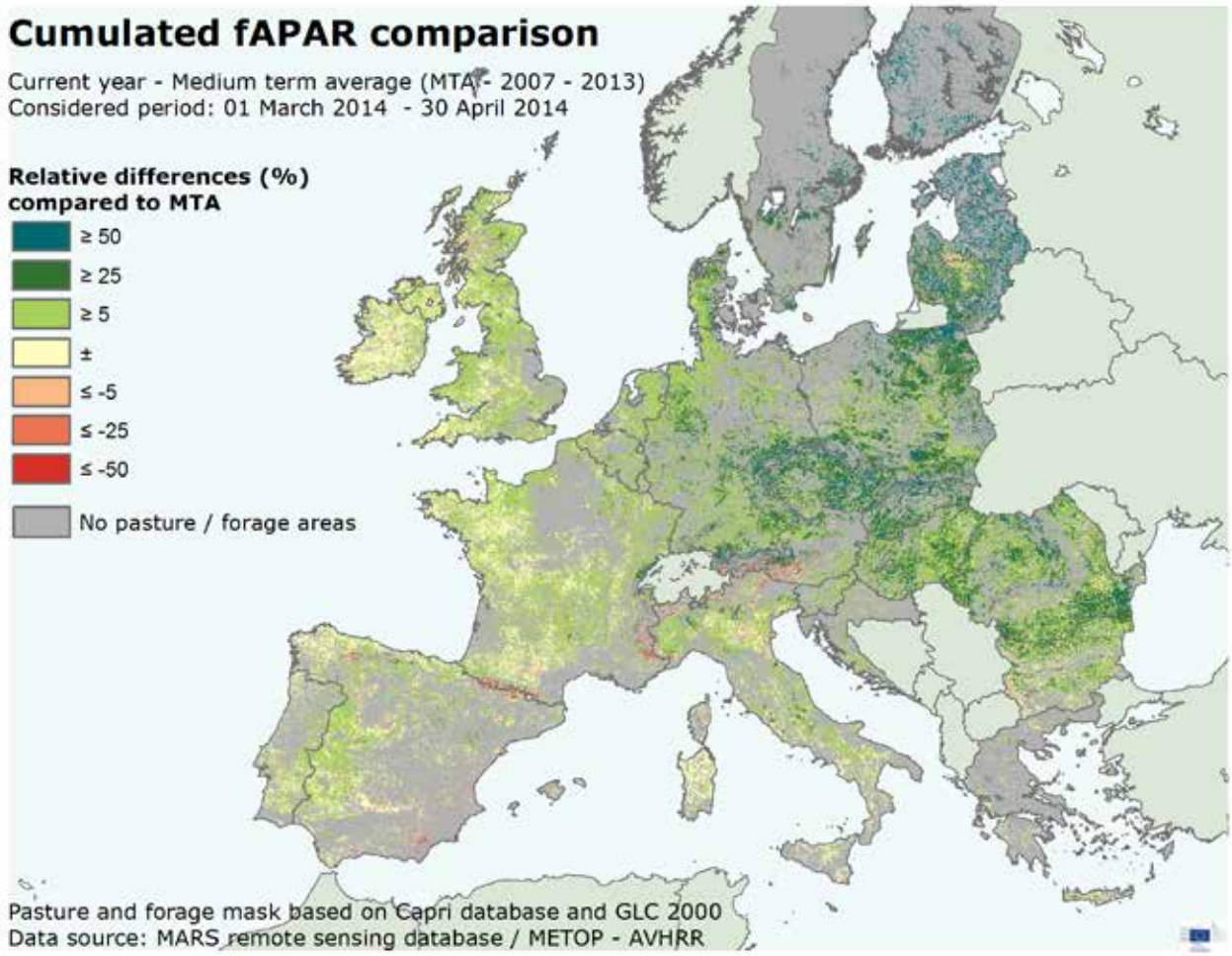

Triticale - yield forecast 2014
Actual yield versus average yield 2009 - 2013
Yield figures 2014 are expressed in t/ha and rounded to 100 kg
lower yield (< -4 %)
comparable to average
better yield (> 4 %)


Rape and turnip - yield forecast 2014
Actual yield versus average yield 2009 - 2013
Yield figures 2014 are expressed in t/ha and rounded to 100 kg
lower yield (< -4 %)
comparable to average
better yield (> 4 %)

6. Pastures in Europe – Regional monitoring

Pastures in good condition thanks to a mild start to the season

Temperatures from the start of the season have been substantially above average in most of Europe, leading to an early development of pastures. This fast phenological development has been accompanied by abundant rainfall in western countries, depicting a positive scenario for grasslands growth in the coming months. In central and eastern Europe, pastures also present a favourable vegetative status, although March and April have been drier than usual.



High biomass formation in the Iberian Peninsula, humid start to the season in Italy

The season got off to a humid start with abundant rainfall in February and April in the **Iberian Peninsula**, accompanied by higher-than-usual temperatures from January to April. These favourable weather conditions benefited the growth of grasslands in the *Dehesa* area, which currently presents biomass production levels that are substantially above the medium-term average. The outlook for northern Spain is also positive, due to mild temperatures and adequate precipitation.

Abundant rainfall also marked the start of the season in **Italy**. Northern regions received more than twice the precipitation of an average year during the period January-April. However, the sowing of fodder maize has not been affected, and this crop has already emerged in the *Po valley*. Expectations are positive thanks to the high levels of water stored in the soils. Biomass formation in the grasslands of southern regions and *Sardinia* is currently above the average, favoured by mild temperatures.

Humid spring in the North West of Europe

In the **UK** and **Ireland**, the first quarter of 2014 has been extremely humid, with continuous rainfall from January to mid-March. Temperatures have been, in general, milder than usual, which has permitted the adequate growth of grasslands. Therefore, biomass formation is currently above the medium-term average in western and northern regions of the UK, whereas in Ireland grassland growth is close to seasonal levels. The outlook is positive for the coming months.

The vegetative status of grasslands in northern **France** is positive, favoured by abundant rainfall and above-average temperatures since the beginning of the growing season. In central regions of *Limousin* and *Auvergne*, the increase in temperatures registered from March led to a rapid increase in biomass. Expectations are positive as rainfall accumulation during spring has been sufficient to support biomass formation in the coming month. In the Atlantic regions (*Normandie, Pays de la Loire, Poitou-Charentes*), pastures have gradually recovered the slight delay in development due to the overly wet weather conditions observed during January and February. Biomass formation is close to the medium-term average in the **Benelux**.

Positive conditions in central Europe

The start of the season has been drier and warmer than usual in **Germany**. Precipitation registered in the period February-April has been substantially below the average in most regions, accompanied by daily temperatures that were above seasonal values by 3°C. Pasture development benefited from these high temperatures, and growth levels are currently largely above the medium-term average. The abundant rainfall registered at the end of April will prevent grasslands from suffering significant water constraints.

Similarly, biomass production levels are above seasonal values in the pasture regions of **Austria**, the **Czech Republic** and **Slovakia**. This is a consequence of an advanced start to the season – which is about one month ahead – determined by mild temperatures from February onwards.

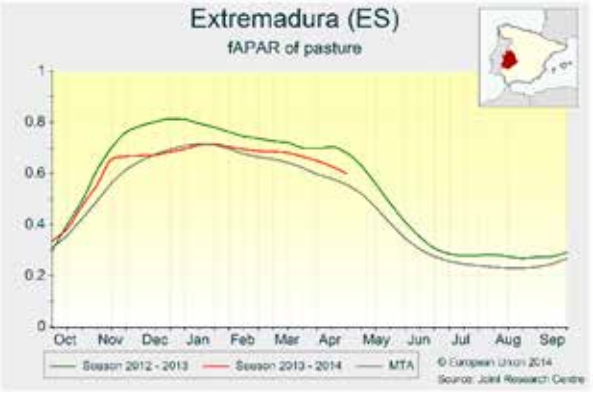
Early start to the season in northern and eastern Europe

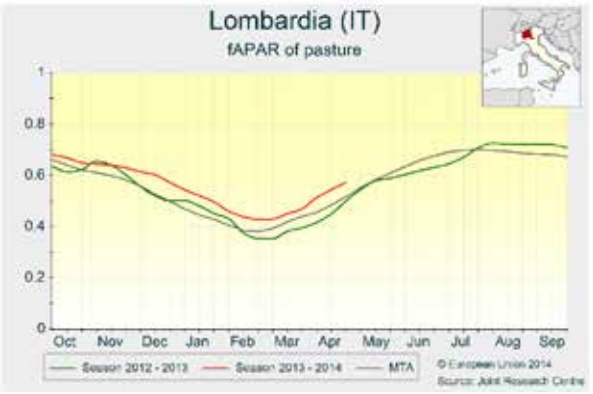
The mild weather conditions registered from February onwards led to an early start of the pasture growing season. Therefore, in **Poland**, **Lithuania**, **Latvia** and **Estonia** vegetative growth of grasslands is about two weeks earlier than an average year. Similar weather conditions have been observed in Sweden and Finland. Although biomass formation is currently substantially above the medium-term average in all of the abovementioned countries, the growing season is still just beginning.

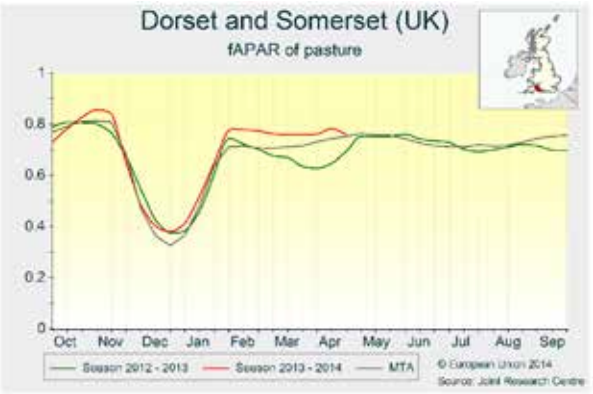
Pasture development is also advanced in **Denmark**. Favoured by mild temperatures and abundant precipitation during the first quarter of the year, the biomass of grasslands is currently substantially higher than the medium-term average. The outlook for May is quite positive, as rainfall accumulation during the previous month ensures that vegetative growth will not experience any major water constraints.

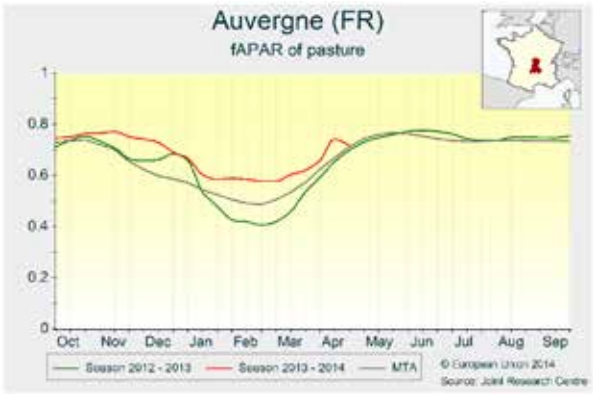
Mild weather in the southeast of Europe

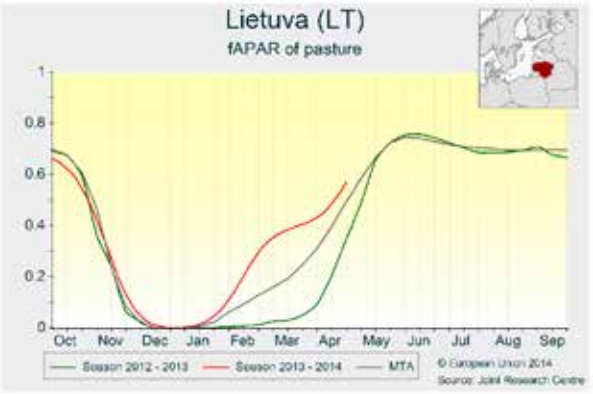
Temperatures have been warmer than usual from the start of the year in **Romania** and **Hungary**. In both countries, thermal conditions led to an advanced start of the season in most regions, about three weeks earlier than usual. Consequently, biomass production on pastures is largely above seasonal values, and supported by abundant rainfall from April onwards. Expectations are favourable for the coming month, if the current mild weather conditions and substantial rainfall continue.


Extremadura (ES)
fAPAR of pasture
1
0.8
0.6
0.4
0.2
0
Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep
Season 2012 - 2013
Season 2013 - 2014
MTA
© European Union 2014
Source: Joint Research Centre


Lombardia (IT)
fAPAR of pasture
1
0.8
0.6
0.4
0.2
0
Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep
Season 2012 - 2013
Season 2013 - 2014
MTA
© European Union 2014
Source: Joint Research Centre


Dorset and Somerset (UK)
fAPAR of pasture
1
0.8
0.6
0.4
0.2
0
Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep
Season 2012 - 2013
Season 2013 - 2014
MTA
© European Union 2014
Source: Joint Research Centre


Auvergne (FR)
fAPAR of pasture
1
0.8
0.6
0.4
0.2
0
Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep
Season 2012 - 2013
Season 2013 - 2014
MTA
© European Union 2014
Source: Joint Research Centre


Lietuva (LT)
fAPAR of pasture
1
0.8
0.6
0.4
0.2
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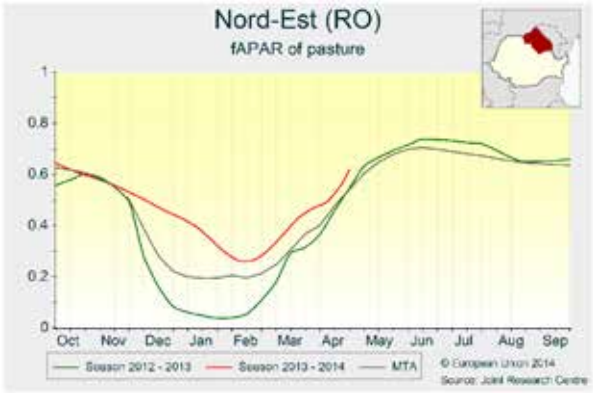
Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep
Season 2012 - 2013
Season 2013 - 2014
MTA
© European Union 2014
Source: Joint Research Centre


Nord-Est (RO)
fAPAR of pasture
1
0.8
0.6
0.4
0.2
0
Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep
Season 2012 - 2013
Season 2013 - 2014
MTA
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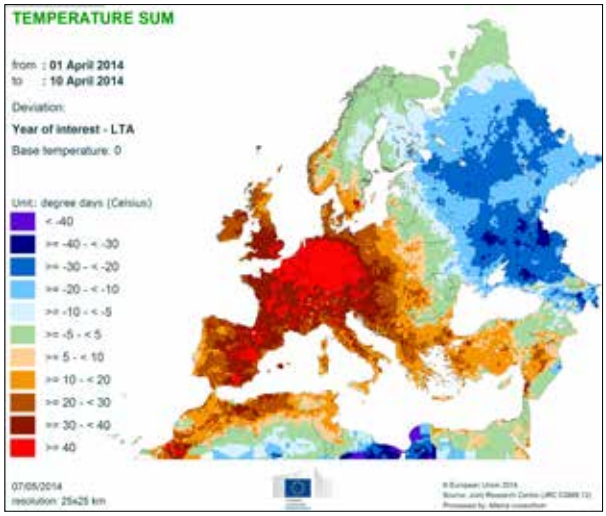
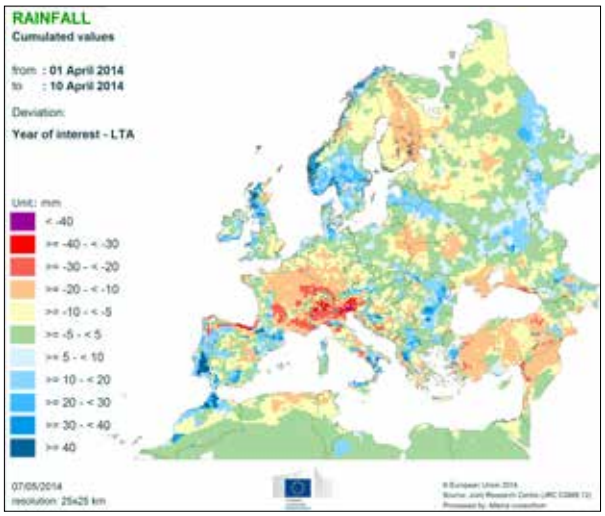
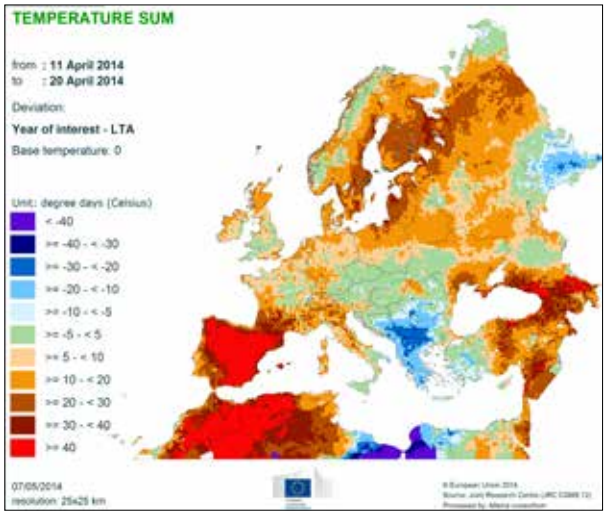
Source: Joint Research Centre

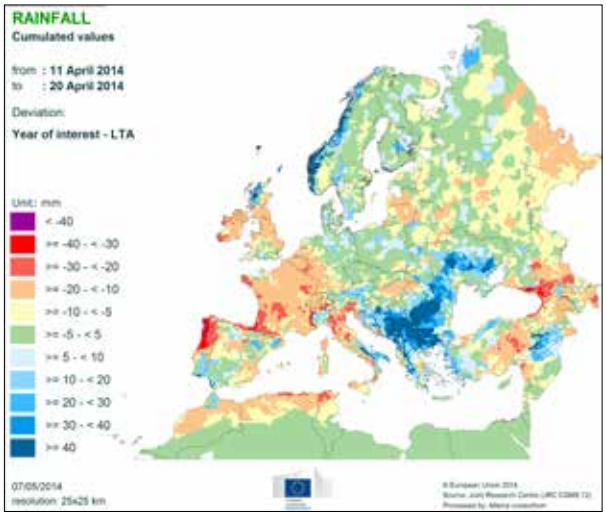
7. Atlas maps

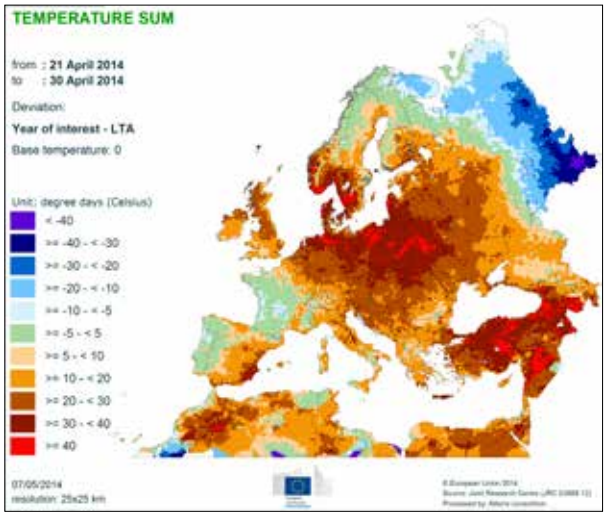
Temperature sum and precipitation

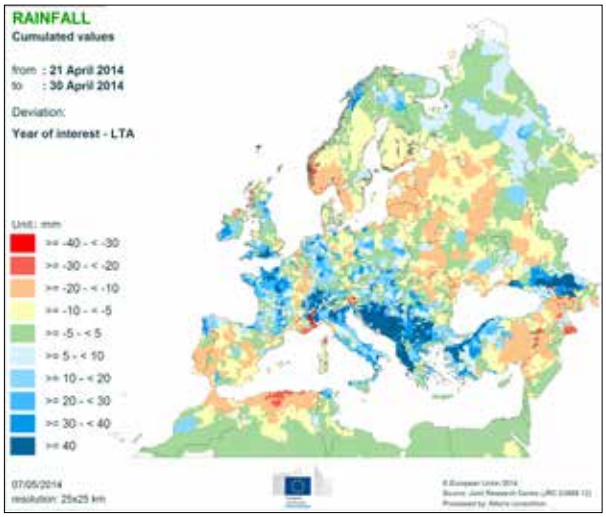




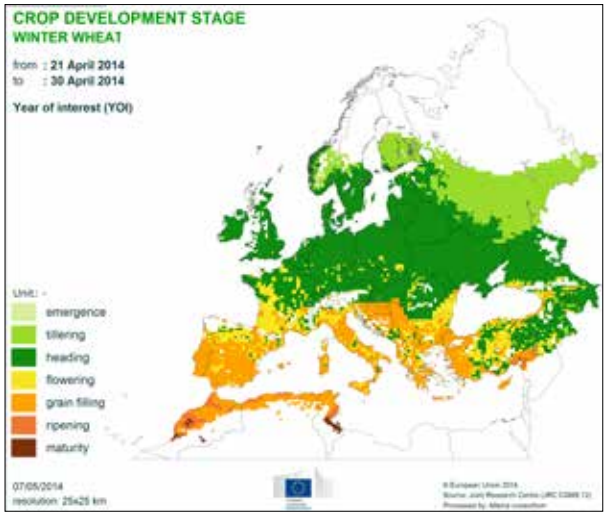


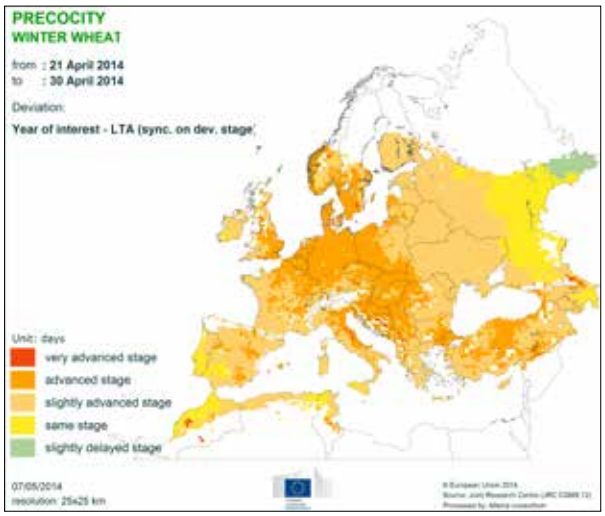


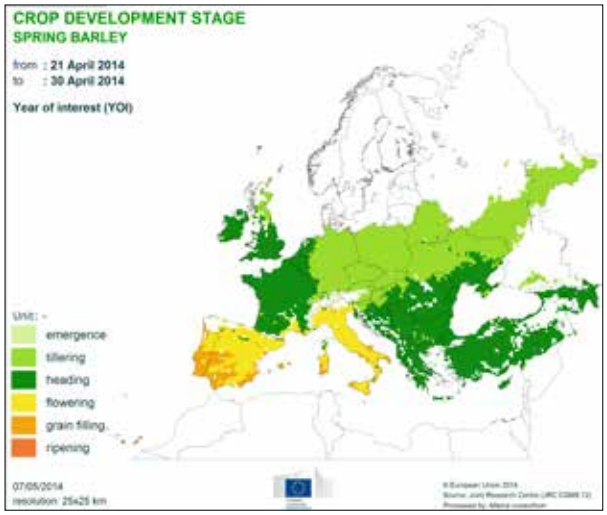


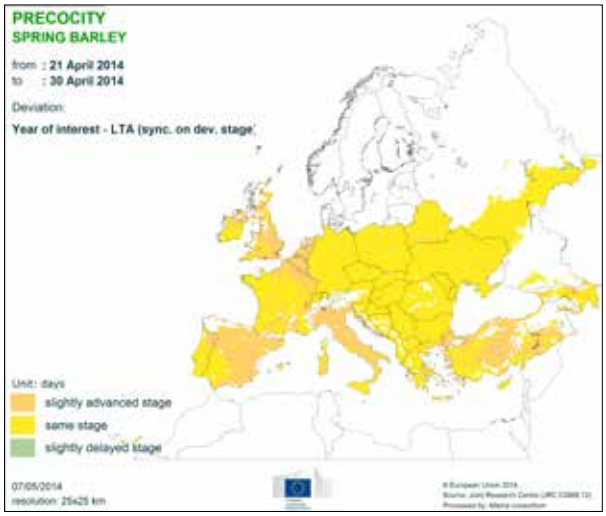


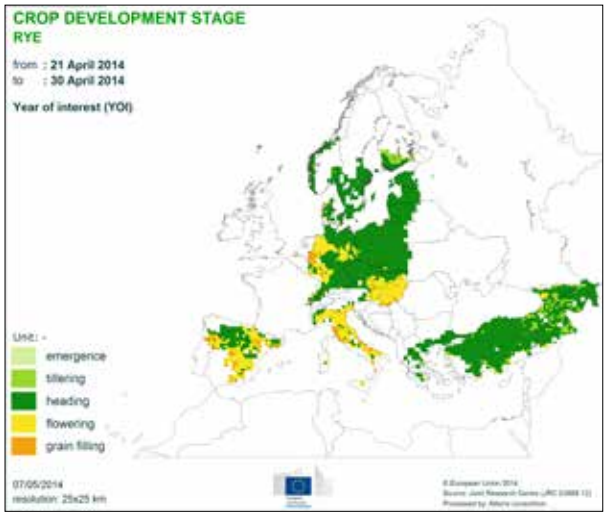
Crop development stages and precocity

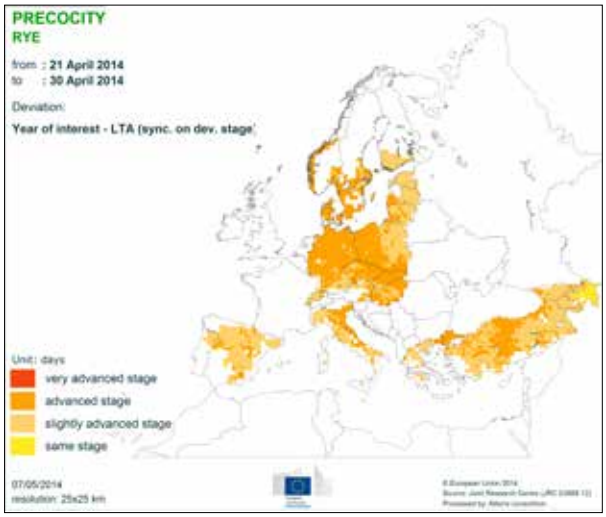


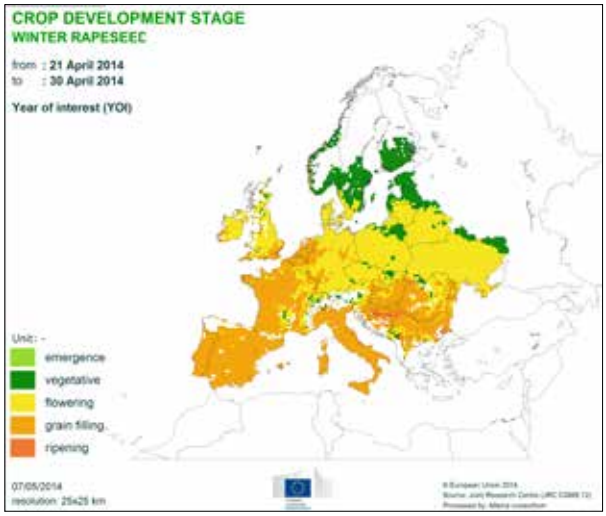


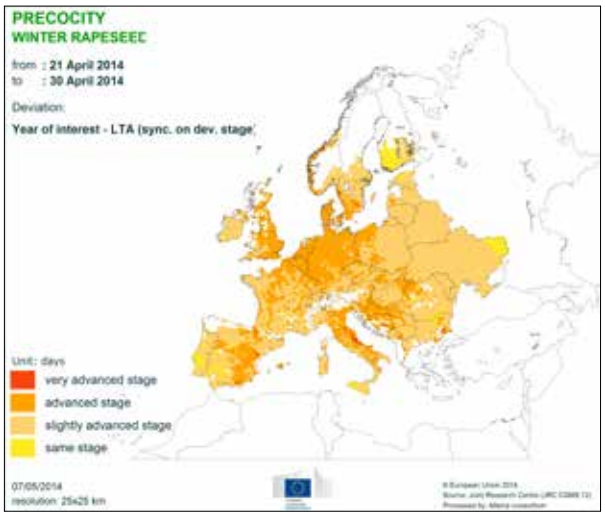




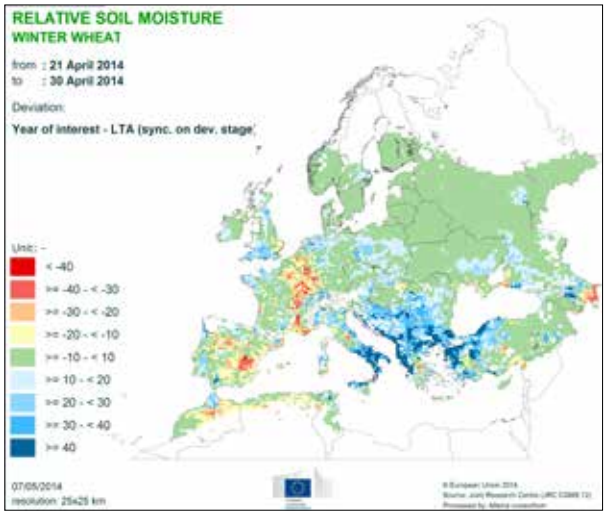


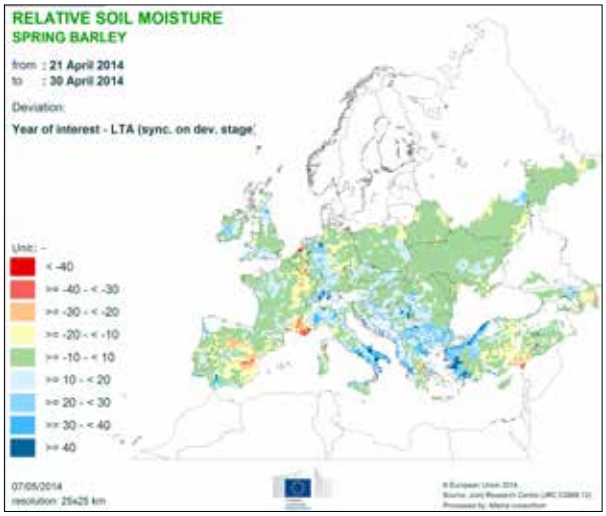


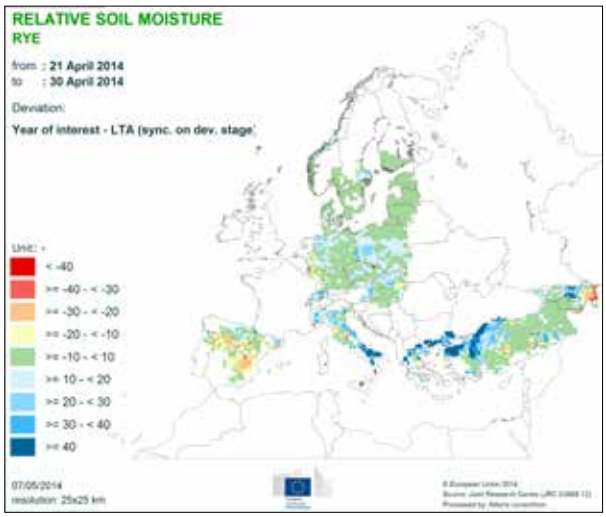


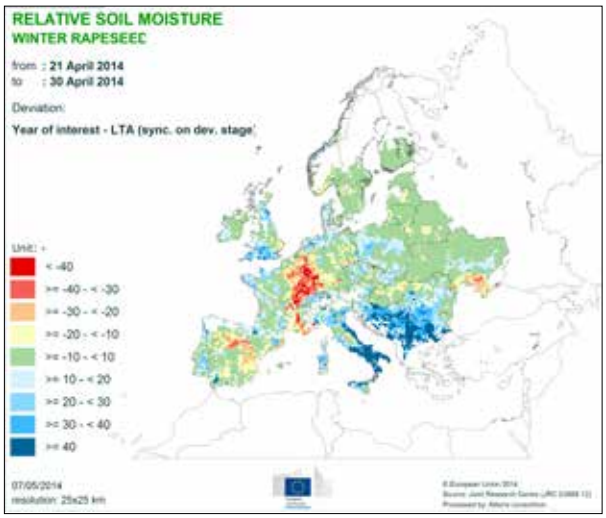


Relative soil moisture









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2014 MARS Bulletins

Date	Publication	Reference
27 Jan	Agromet. analysis	Vol. 22 No. 1
24 Feb	Agromet analysis	Vol. 22 No. 2
24 Mar	Agromet analysis and yield forecast	Vol. 22 No. 3
14 Apr	Agromet analysis, remote sensing and yield forecast	Vol. 22 No. 4
12 May	Agromet analysis, remote sensing, yield forecast and pasture analysis	Vol. 22 No. 5
23 Jun	Agromet analysis, remote sensing, yield forecast and pasture update	Vol. 22 No. 6
21 Jul	Agromet analysis, remote sensing, yield forecast, pasture update and rice analysis	Vol. 22 No. 7
25 Aug	Agromet analysis, yield forecast and pasture update	Vol. 22 No. 8
22 Sep	Agromet analysis, remote sensing, yield forecast and pasture update	Vol. 22 No 9
27 Oct	Agromet analysis, remote sensing, yield forecast, pasture analysis and rice analysis	Vol. 22 No. 10
24 Nov	Agromet analysis and yield forecast, sowing conditions	Vol. 22 No. 11
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